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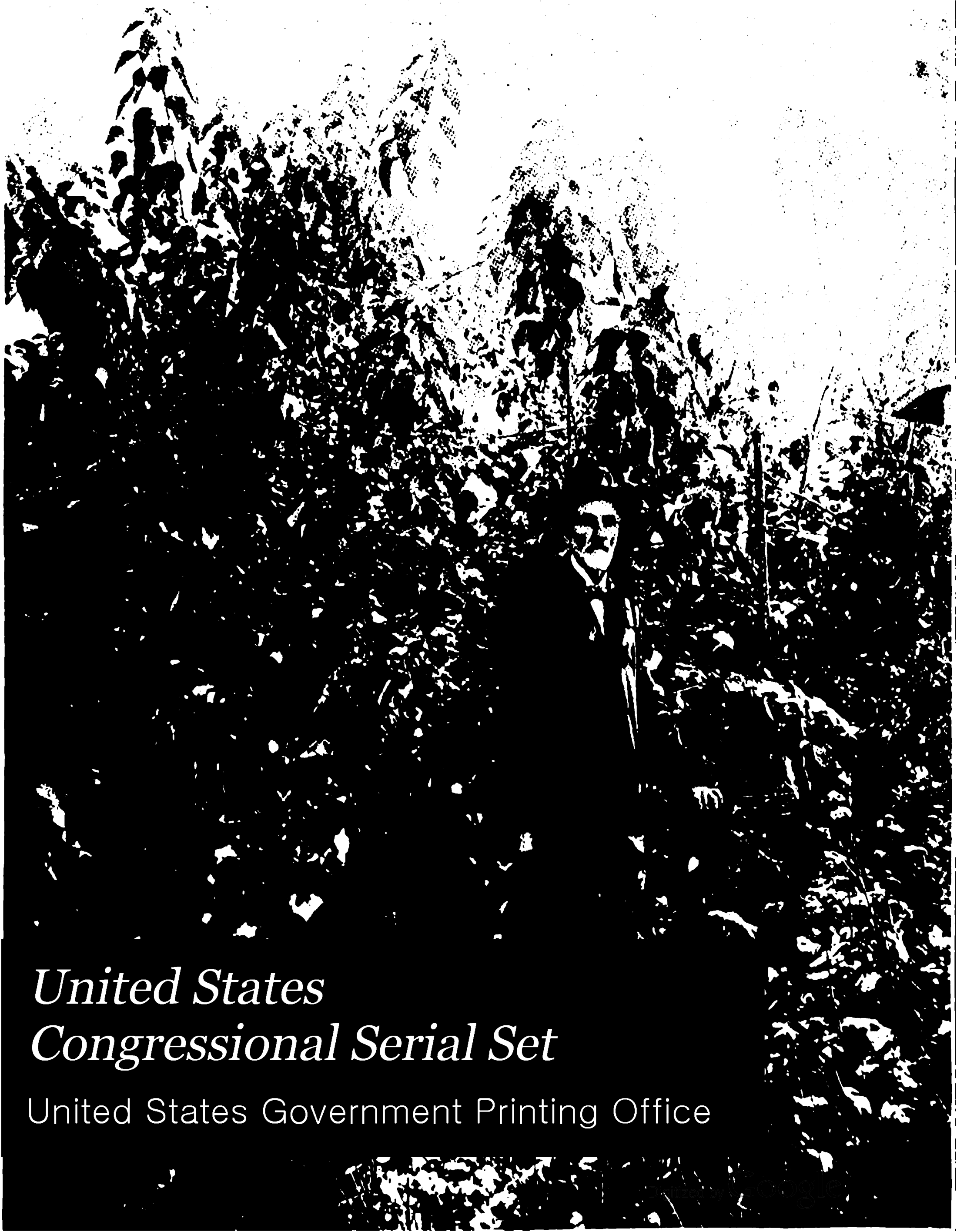

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PROMOTION OF THE RAMIE INDUSTRY

STATEMENT BY S. H. SLAUGHT IN BEHALF OF THE RAMIE INDUSTRY

Senate Document 392, 59th Congress
2d Session

MAY 29, 1908

Presented by Mr. HEYBURN and ordered to be printed

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[Senaté Document No. 392, Fifty-ninth Congress, second session.]

PROMOTION OF THE RAMIE INDUSTRY.

Mr. HEYBURN presented the following

STATEMENTS, BY S. H. SLAUGHT, IN BEHALF OF THE RAMIE INDUSTRY AND ITS PROMOTION IN THE UNITED STATES.

MARCH 2, 1907.—Ordered to be printed with illustrations.

[Senate Report No. 6460, Fifty-ninth Congress, second session.]

The Committee on Manufactures, to whom was referred the bill (S. 4633) authorizing Government assistance in the development and encouragement of ramie-fiber silk and flax preparation and manufacture and their production and profitable home market in the United States, under the supervision of the Secretary of Commerce and Labor, have given the same careful consideration and recommend the passage of the bill.

By this bill it is proposed that Congress shall provide a sum of money to assist in carrying on the development and encouragement of ramie-fiber silk and flax preparation, its manufacture and production, and the creation of a market for the same. The Department of Agriculture has been actively engaged for a number of years in furthering the experimental fiber investigation, both in the culture and preparation for manufacture. It has been demonstrated that the fiber can be successfully grown, especially in the Southern States, but further experimenting is necessary in the direction of bringing about improved and more economical methods in its manufacture. On account of the amount involved it is difficult to secure private capital to accomplish this purpose and Government aid seems to be necessary to encourage the development of the ramie industry, which will, it is believed, after a full demonstration, become one of the most extensive and profitable products in the country.

The Secretary of Agriculture on February 24, 1906, in a letter to the chairman of the Committee on Manufactures of the House of Representatives, reported on a similar bill as follows:

> This Department is especially interested in the cultivation of ramie, flax, and other fiber plants. Experiments which have been conducted heretofore have demonstrated that ramie and flax can be grown successfully in this country, and the soil and climate requirements for the growth of these plants have been pretty well determined.

The Secretary of Commerce and Labor, under date of March 27 last, in commenting on a similar bill pending in the House of Representatives, says:

> The subject embraced in the bill was brought to the attention of Congress in the past through the Department of Agriculture and other governmental agencies, and reports were made thereon to the Senate and House of Representatives. Doubts have been expressed as to whether ramie can be successfully cultivated in the United States. Experiments that have been carried on from time to time seem to have demonstrated that ramie can be successfully and profitably cultivated here, and there is reason for the belief that its cultivation would become extensive if industrial plants were established for the preparation and manipulation of the fiber and its conversion into fabric. The purpose of the bill seems to be that a plant shall be established by the Government, or largely through its agency and support, for the "preparation, manufacture, production, and to find profitable home markets throughout the United States." This contemplates the erection of buildings, the purchase of machinery with a view to developing the production of and finding profitable home markets for ramie, silk, and flax, and that the manufacture thereof shall be superintended by the Department of Commerce and Labor. The cultivation of ramie in other countries is quite extensive, and a large and profitable industry is supplied with the fiber, the products of which are sold in this and other markets. The invention of machinery for the decortication and degumming of the fiber and its preparation for manufacturing purposes has stimulated cultivation in countries in which the growth is indigenous. In consequence ramie is now being extensively and exclusively used in manufacturing a variety of cloths, and is advantageously employed in admixture in the production of silk fabrics and finer grades of woolen and worsted goods. There is no reason to doubt that private enterprise directed into this channel would secure profitable return for capital invested, and that ultimately a large industry would be developed in this country. The matter involved is one of the highest importance, replete with possibilities, and worthy of serious consideration by Congress.

There is also submitted and made a part of this report letters and articles from various individuals and newspapers containing information of interest and value relating to this subject.

There are numerous instances where the Government has given substantial aid to new industries, both by direct appropriation and by protective tariff, and believing that this bill if enacted would build up an industry which would furnish profitable employment to thousands of its citizens, favorable action is respectfully recommended.

Statement by S. H. Slaught, of Washington, D. C., January 7, 1907.

PRODUCTION OF RAMIE IN CHINA AND THE UNITED STATES.

Ramie is a species of fiber plant, called boehmeria, and belongs to the nettle family, producing a fiber directly in its inner bark which can be spun alone into a great variety of superior and beautiful fabrics and numerous other articles, or woven with silk, wool, alpaca, worsted, camel's hair, or flax, giving to the cloth into which it is thus woven a beautiful silky finish. Ramie has been and is being produced in China, Japan, Korea, and the Pacific islands at the present time and for thousands of years past to an extent that is an important element in commerce, and in the United States since 1855 only in an experimental way; but I am now and have been for twelve years past growing two or three crops annually and producing as fine stalks and making decorticated and cleaned and ungummed fiber from them as can be produced in the world, and demonstrating that ramie can be manufactured into goods at a profit here in this country. Ramie is not an annual crop or product of pods or bolls, like cotton, but has a 6-inch staple in the bark, and each fiber is an ultimate cell as fine as silk, of a pearly white, and about as glossy, and much stronger, while it colors like silk. Cotton does not, and has a short three-eighth to seven-eighth inch staple of a dead white, and is an annual and has to be planted every spring and cultivated all summer and picked in the fall and ginned. Ramie when once planted and perfected is permanent—starts up itself in the spring and matures for fiber every two months. As soon as one crop is cut and harvested it grows right up again, like alfalfa, and once planted it goes right on producing of its own accord, and lives for many years, when once started with proper care, where the winters are not too severe so as to freeze the roots lying dormant in the ground during the winter months. It has produced one large crop each year, 10 or more feet high, if allowed to grow all summer, and ripens seed as soon as the frosts come to stop its growing and ripen up the seeds. I have grown two or three crops a season, 5 feet or more high, for fiber each year for the past twelve years or more here in Washington, D. C. Ramie grew in the Botanic Garden, in the open ground, from 1855 to 1900 almost without care, and, it seems, without comparatively anybody knowing it.

A good stand of ramie, which takes two or three years to perfect, will produce 1,000 pounds to the acre each cutting of the crude decorticated (not cleaned) fiber, as dried and baled ready for the factory; therefore from 2,000 to 3,000 pounds to the acre a season of crude dried fiber as decorticated by machinery, which is in the rough and is not cleaned by the same continued performance by any means, which can never be done to pay or at all, we might as well say, by machinery in decortication. Ramie has to be cleaned after decorticated by machinery in the mill by a process, of course handled by machinery; then it is ready to be ungummed by another process, and of course handled by machinery; then it is ready to be prepared for spinning, and it takes some 13 machines still in the factory to prepare ramie for spinning just the same as for wool or worsted, or even cotton or other fibrous material for valuable goods at least. The great obstacle that has been in the way of the general use of ramie fiber as imported from China already cleaned, as well as already grown and decorticated by hand (both together by hand, not machinery at all), was found in the difficulty of removing the gum and not in the growing or decorticating at all. We have had machines that decorticated ramie for twenty years or more, but no market for the crude fiber here because they did not know how to use the cleaned even, and in Europe for the same reason, and also that they could get the Chinese cleaned cheaper than we could produce it to pay us for them, even if the experimenters here had known how to clean it for them to any advantage, thus coming in direct competition with the Orientals on their own ground, and we having to pay freight, commissions, and profits to send it there, where it was worth half what it was here.

We do not think we can compete with oriental labor or production here at home where we can protect ourselves with exclusion and a tariff law; how are we to compete with them in producing something here where it is worth twice as much as it is there, even if there was no other obstacle in the way? I have developed processes to both clean the crude ramie fiber (machine-decorticated ramie fiber) and make it like the Chinese hand cleaned; and also for ungumming the cleaned ramie fiber, and thus make it ready to be prepared for spinning; and have associated with me, or have engaged experts, or been offered the assistance of and cooperation of the best machinists and expert manufacturers, and the services of the best workmen in manufacturing goods. Now, the trouble is to get rid of the old prejudices, and to raise the capital, and produce the factory that will produce the goods, and put them on the market successfully in quantities to compete with Europe, where they have so long a start of us, and to thus be able to contract with the farmers to raise ramie here in the United States; and when that is accomplished we will want a tariff on the fiber, both on the cleaned and the crude, of ramie fiber from oriental countries as well as European nations that ship ramie for them, and maybe control some of it, or try to, and not until then, as we can not go to raising ramie until we have our own market, and that must be in a factory or factories to make the goods that we can best compete with Europe in producing. The trouble with the tariff now is with the European importations of the fine yarns on a tariff of only 15 per cent, when the coarsest yarns pay 15 per cent and on up to 45 per cent. The 15 per cent was secretly put on in the last passage of the Dingley bill, and is in the interest of the importers and foreign manufacturers, and especially for the silk manufacturers, who are using large quantities of these fine ramie yarns, imported from Europe at 15 per cent tariff, when it was and ought to have been left remaining 50 per cent, and was passed that way by the House, and only secretly changed in the throes of a dying Congress. These ramie mixed silks are being sold for silk, and of course cost much less, even if they paid 50 per cent, and should be sold much cheaper, even if they are better.

That great wrong must be righted by correcting it next session of Congress. Then we can interest capital in the manufacturing of the goods and place them on the market, and thus create a market for the product to be raised by our farmers, at a great profit to them, and the masses can have better goods made at home at much less cost than they have to pay now for them, imported as they are, and I am glad to say that the Agricultural Department is with us on that proposition now, and the Secretary of Commerce and Labor has signified his willingness to assist in its development, as it is a purely commercial proposition to start with. Consul Liefeld, of Freiburg, Germany, says:

> There the first German ramie company is operating a factory at Emmendingen, Baden, for the spinning of ramie. The company has been in existence for about sixteen years. It now employs more than 600 workmen, is repeatedly adding new buildings to the already large factory, and expects to soon provide an annual output of more than 1,250,000 pounds of valuable yarns. The fiber used at Emmendingen is imported from China. In commerce now there is no distinction made between the two species of bœhmeria (Nevia and Tenasisima), and at the present time the name ramie is almost entirely the only name, a name which is derived from the Malayan word rameli, and first applied by the Dutch and introduced into Holland, Belgium, France, and Spain. The former term, china

grass, used at first in England for the first material imported from China, and for a while made use of in Germany, has now, however, been replaced by the name ramie. In England and her colonies the term rhea is often used for the product.

These statements, he says, are made from quotations of scientific investigations and expert articles on the subject.

The English and our former pretended "expert" ramie agent tried hard to "pull the wool over our eyes" here and make our people believe that ramie was not grown in Washington, D. C.; that what was grown here was nothing but "china grass," and was not ramie at all. Well, "chickens will come home to roost" and "time will right all things," so it seems.

Mr. Liefeld further says:

Characteristic, however, is the extraordinary length of the ramie fibers, as we find it occurring in no other fiber. [The average length is 3 to 6 inches, and even 9 inches.] It might be stated here for comparison that the fibers of cotton are only 0.5905 to 2.598 inches in length and of hemp 0.1968 to 2.1653 inches in length, and these, and the separate fibers of flax, are only 0.1573 to 0.2598 inch in length, and of jute from 0.00059 to 0.00098 inch in length, so that also in this respect ramie surpasses all other vegetable fibers. The separate fibers, as far as breadth is concerned, are very much alike, and they diminish in breadth gradually toward the ends. As will be seen from the transverse section, they are especially ribbonlike in their construction, and accordingly under the microscope in their transverse section look considerably different.

Fibers which lie on the breadth side show a broad lumen or inner structure and comparatively thin wall. The ends of the fibers taper quite gradually, and they have the breadth of 0.000118 to 0.00019 inch. They are in part pointed, in part rounded, and their inner or lunar structure appears, according to the position of the fiber, quite wide or very narrow. The inner thickened walls or growth as we see in hemp or jute are quite wanting. The cell walls of ramie fiber consist of pure cellulose and give all the known reaction of the same. By means of ploroglucian and hydrochloric acid or other reagents for linguine there is not the least trace of a woody reaction found, while this is the case with hemp and sometimes with flax, and is very markedly the case with jute fibers. In copper oxide ammoniate there is quite naturally a strong reaction and at the same time a contraction in the direction of the length, while the contents of the fiber remain unchanged. For the technical purposes the following qualities of the ramie fiber are of especial note and value: The great length and relatively the great breadth of ramie fiber, the excellent shimmer, like silk, the high pliability, moreover the great chemical resistance, and finally the extraordinary firmness. The first-named qualities have already been spoken of; concerning the two last-named qualities a few words may be in order. The resistance of the ramie fiber to chemicals was definitely shown by means of many experiments especially made in France. According to these, ramie fiber acts with twice as much resistance as flax toward alkali. Important for certain uses is in this respect the action of ramie fiber as regards moisture and meteorological influences.

Concerning this, Dr. Forbes Watson (report on rhea fiber, London, 1884) made experiments by subjecting different plant fibers at first to the action of steam under pressure of two-atmosphere pressure for two hours and then boiled them for three hours. According to this pressure, with the ramie fiber there was a loss in weight of 0.80 to 1.50 per cent, while flax suffered a loss of 3.47 to 3.50 per cent, hemp 3.38 to 6.18 per cent, and jute had lost in weight even 10.20 to 21.38 per cent. In more recent times similar comparative experiments have been made with ramie, hemp, and cotton materials at Spaunda, which show that ramie had the greatest resistance toward decomposition. The firmness of ramie is greater than that of all other substances. To prove this many experiments have been made. As long ago as 1855 Dr. Forbes Royal found that the resistance against tearing of ramie and Russian hemp are in the relation of 7 to 4. Fremery, in his work, "La Ramie," cites experiment of the English Government, by means of which twisted bundles of fibers of equal weight and length were torn. For Russian hemp a weight of 80 kilograms (173.368 pounds) was necessary to rupture the fiber, while ramie could endure a weight of 275.5751 pounds, and another specimens of ramie even 376.9861 pounds—a fact which agrees with the results obtained by Royle.

According to experiments by Doctor Harting, in the technological laboratories of the Dresden polytechnikum, these results for the ramie yarn number 84—a tearing strength of length of 12,489 yards; for spun ramie yarns number 16, one of 13,213, 210,822 yards.

Similar experiments were carried on by Alcon, according to which the tenacity of ramie yarn, flax, hemp, cotton, and silk respectively the relation of 1 : ¼ : ⅓ : ⅙, while the elasticity of these is as 1 : ⅔ : ¾ : 1 : 1. Finally another interesting quality of ramie fiber must be noted, and that is its length weight, which must be taken into account as well as in determining the thread number as in the judgment of the prices of the same. Ramie thread is much lighter than linen thread, and stands in the relation of 6 : 10, while the linen thread 2.2 pounds number 10 has only 3.728 miles length; 2.2 ramie thread of the same number measures 6.2137 miles. Up to recent times the difficulties to be overcome were overwhelming and wrongly thought to be in the lack of proper methods for the decortication of the ramie stems, but latterly found to be in the properly ungumming the cleaned ribbons and prepare them for spinning (so really the want of a factory to create a market for the crude decorticated machine ramie, to be grown in this country, i. e., in a factory with the capital and the process which we now have to foster such a market).

Mr. Liefeld further says:

The methods which have been made use of in the separation of the fiber from the stems of flax, hemp, and jute, and which would include the processes of Rocstens, Darens, Brechens, Schwingens, and Hechelns, are not sufficient for the separation of ramie fiber.

The bark which contains the fiber is easily separated green from the relatively stronger wood of the stems, but the difficulty is to separate the long valuable inner fiber from the surrounding tissues. In the usual steeping processes in the case of flax, hemp, and jute, whether the ordinary steeping process through the action of dew or the cold and warm water and steam, the inner tissue (the parenchyma) lying between the fiber bundles are considerably loosened and in part destroyed, while the inner useful fibers remain unchanged. These fibers can therefore after this process be easily and completely isolated from the stems; but this is more difficult in the case of ramie. If the change is brought about by or through the action of dew or water for only a short time, so that the fibers have not been affected thereby, the combining inner tissues are not sufficiently loosened to complete the separation of the proper fibers; if, on the other hand, the fermentation (the process called Roeste is really a fermentation—reting, we call it) is continued to complete destruction of this parenchyma, the separate fibers embedded therein will also be strongly affected, become tender, lose their brilliancy, and are unsuitable for spinning purposes.

Another very serious difficulty in the isolation of the ramie fiber is due to the great quantity of mucilaginous or gummy stuffs, especially pectose, cutose, and vascelose and calcium pectinate, which surrounds the fibers and cause them to adhere to each other, and which can only be obviated through the mechanical (with slight chemical) means. Nevertheless, chemicals must be used with great care, so that the fibers themselves do not lose some of their valuable qualities.

(This, and not decortication, has been the trouble which we have overcome.) Mr. Liefeld says further:

During the last thirty years various persons have busied themselves with the solution of these questions, and the methods for the separation of the fiber which have been advanced have been very numerous. Since the beginning of the seventies there have been 460 methods and processes proposed for the separation of the ramie fiber, and the most of them have been failures. These almost usless efforts of so many inventors show most clearly the great difficulties which were to be overcome.

One author claims that in the years of 1870–1893 there were in France 185, in England 235, and in America 34 processes and machines described. The common method in China for obtaining the fiber is hand labor, about 1 to 2½ pounds of cleaned fiber per workman per day, and therefore for the work on an extensive scale or plantation must necessarily be altogether too tedious and costly; nevertheless, this hand method must be described here, as we can learn therefrom about the machine work and the cleaning thereafter in the factory by a process that we will have to so do differently from them. (See Ramie Promotion and The Ramie Industry, S. Docs. Nos. 47 and 57, reprints from the same, 54th Cong., 2d sess., with 20 illustrations.)

It is high time that the American people look to home for their own interests more and begin to know that we can do as much and better than our slow cousins across the water, who get ahead of us by sheer plodding and befogging our skeptical ones here, who believe nothing until they own it or profit by it. It is especially necessary that we, at the place where ramie is grown, decorticate the fresh-cut stems of ramie immediately in a green state after the leaves have been removed by stripping. The latest construction of decorticators profits by this experience and makes them exclusively for this material. The Chinese material of raw (cleaned) ramie fiber, as well as that received from the stems of the plant by means of the machines (decorticators), of course, and thus made the same as the cleaned by a process in the factory (handled by machinery, of course, and thus made the same), are still quite impure and form yellowish narrow ribbons. The finer fibers still cleave to one another firmly, on account of the gum-like materials, and must, before they can be used for spinning purposes, be subjected to a very careful ungumming process, which removes the gum. Mr. Liefeld further quotes:

> Analysis of the raw fiber of ramie shows that this consists of cellulose and paracellulose and metacellulose, and besides several small quantities of albumens and mineral salts, the sticky stuffs vasculose, pectose, and calcium pectinate.

The various processes for the separation of the fiber from the stem do not, however, perform both tasks at the same time. It is the cleaned fiber which has been separated from the outer bark (outer cuticle) by mechanical means that can be used for ungumming, and this is made use of in European factories. The most important task for the preparatory work for spinning the ramie fiber is to prevent as much as possible the breaking of the same, for the great length of the fiber is, among other things, one of the chief characteristics of the ramie, because it makes possible the preparation of fine yarns with less tension and preserves at the same time the high quality of brilliancy only for it and as well the special firmness of the fiber. The bleaching of the ramie fiber or the yarns is only necessary for the absolutely white goods, when the fiber is properly prepared, and that should be done only in the piece. Well-ungummed fiber of ramie possesses a natural pearly whiteness, and the yarn prepared is only very faintly, much, if any, if perfectly done, and is not yellowish, so that it can be very readily bleached for pure white or dyed without any bleaching. We do not have to bleach, as our processes clean and nugum and do not burn up the gum in the fiber, as most of the foreign ones do, thus making the fiber and the goods harsh and brittle, and unsatisfactory in the wear, like most of the imported products are.

Mr. Liefeld further says:

> The spinning of the ramie fiber is carried on in but few special factories, of which there is one in Germany. In France there are at the present time only two factories, two in England, and one in Switzerland, and none in the United States. For textile purposes ramie yarns were formerly used especially in France, now in Germany. Swiss and Austrian and other spinners use the same to a great extent mixed with other yarns. In France there were materials resembling the linen fabrics prepared, as well as other textiles, white and colored. They were recommended for their lasting qualities and toughness,

qualities which, as a matter of fact, the ramie possesses to a great extent. A very interesting use of ramie fiber may be mentioned, which has been tried in Switzerland, namely, the braiding of ribbons for women's hats. Ribbons of a very beautiful luster and translucent qualities are obtained for this. The experiment made with ramie on account of its extra durability as a material for common paper would not pay or succeed, because of the high value of the fiber for high-priced goods, but would for bond or bank-note paper.

The utility of the ramie is accordingly seen to be very great, and its qualities are such that it deserves a very important place. The many excellent qualities of the ramie materials will tend to make an ever-increasing demand for it, and if it could be cultivated in this country, not for crude purposes, but for a ready-paying home market only for high-priced goods, for a time at least, in place of what we are now importing, to start with at least, it would be one of the greatest crops for us to promote the raising of.

Then why not promote the growth of ramie by first starting and perfecting the manufacture of the goods and make a market for what we grow? Why try to send it to a country where it is worth only half what it is here? We can manufacture it into an endless variety of materials and fabrics and useful things that we need and are paying dear for them.

Ramie makes the most extraordinary and lasting as well as beautiful great variety of goods, fabrics, and materials of any one thing. We make the machinery and have the best processes in the world, and can do more and better work in all the great industries. Why not in this? The present situation is different, as has been absolutely proved. Foreigners are jealous of our taking up this ramie industry and are playing on our stupidity, and even using our citizens, I am sorry to say, in trying to "pull the wool over the eyes" of too many of our uninterested citizens, as they are so careless or corrupt as to let them go to too far and great an extent.

RAMIE, OR VEGETABLE SILK.

To illustrate the difficulties that have been in the way in promoting the ramie industry in this country, I want to quote some statements made by an Englishman telling what he knew about it, and that seemed to be a good deal. He commences by saying, "What is ramie?" Let us briefly examine its merits and possibilities.

Ramie is of the nettle family, and is known as Urtica bomeria, vegetable silk, ramie rameh, rhea, recha. In India, the Malay Peninsula, China, Asam, and other places is also known among other names as kankura, kankhura, rixa, ritxa, chuma, kund, kurkunda, sumsha, pan, gun, and gwon. Its many names afford some idea of its wide distribution. As a matter of fact, it will grow almost anywhere, in any zone, is easily cultivated and is propagated from seed, cuttings, or divided roots. It is many times stronger than cotton, jute, flax, hemp, silk, or wool, and has a staple of 2 to 6 inches. Both its luster and its strength remain permanent after washing; washing, in fact, improves it, and it has great rot-resisting qualities which should recommend it for many purposes. Surely the fiber possessing so many good qualities was never intended by the Great Architect to remain neglected.

WHY OUR MANUFACTURERS HAVE NOT ADOPTED RAMIE.

Yet, in spite of its remarkable properties, ramie still waits the attention of our manufacturers (capitalists, I should say, as it needs a new set of manufacturers). The plant has been well known to our authorities for many years.

The early travelers saw it in use by the native in many countries. The Chinese are fully aware of its merits and the Japanese also are working it, and it is imported here in fabrics which pass for other materials. In China it is cultivated extensively and takes the place as a valuable textile, and little is allowed to be exported.

No difficulty is experienced by the Chinese in hand manufacturing ramie, but the primitive methods adopted by them in the preparation of the fiber (which also obtains among the natives in other countries) make it difficult to obtain in large quantities. The government of India, appreciating the value of the fiber, conceived the idea that it would foster the trade and promote its adoption if they possessed a machine to decorticate it. They accordingly offered a handsome reward to the inventor of a machine mechanically to extract a gum which is most prolific in the plant, and which I understand is almost of sufficient value to induce the cultivation of ramie for its production.

(No machine will ever extract the gum; this statement shows that this writer was not a manufacturer; he probably was a dealer, a merchant, that knew in a business way a great deal about the difficulties, but decortication is not ungumming, and decortication does not clean either. It is too bad that people write so much they do not fully know; and they mix up decortication, cleaning, and ungumming, all in a machine, and the public is befogged or fooled about what they know nothing.)

The offer, however, simply resulted in putting back the hands of the clock. Inventors set to work to produce machines to treat a plant which they had never seen and knew very little about, except from the description issued by the government officials. The result was, of course, that a suitable machine was not forthcoming, and would-be planters were deterred by the fear that they would be unable to handle the fiber when grown. This created a sort of impasse.

Manufacturers wanted ramie, but would not start ramie mills until supplies were assured.

Planters were afraid to grow ramie until contracts were made and guaranteed them beforehand, and so we traveled dans un cercle vicieux.

(Manufacturers could not use the imported, already cleaned fiber and until they can use that there is no use in growing or decorticating any, as decorticated ramie is not cleaned.)

THE MANUFACTURING DIFFICULTIES.

Ramie has also suffered through the mistakes of the manufacturers. The merits of ramie were known to a few and they determined to use the China supply, an effort being made to produce the article to compete with cotton. The existing methods adapted to cotton, flax, silk, wool, and the like were employed instead of a new process to treat such a special staple on purposely designed machinery. There was naturally enormous waste and a great want of foresight was exhibited in not contracting for the supplies, with the results that importers were enabled to raise the price of the raw material, and what with the waste and high price of supplies, and the initial mistake in putting it forward as a competitor, the attempt, which at best was but feeble, failed.

(Of course it failed, as they knew nothing about it, and it did not pay for them to learn, even if it was possible for them to learn, for the goods they were trying to make—i. e., substitute for cotton.)

The operations, too, of promoters, who were not slow to grasp the vast possibilities of the ramie industry have tended to put ramie in bad odor.

(Yes; I have been bothered with 20 of them, all over the country, from the Agricultural Department, urging people to invent and build decorticators and plant ramie, when there was no use for a machine until a market was assured by a suitable and capable factory that could make the goods that ramie is adapted for and what will pay the best and thus interest capital and be able to contract bona fidely for the product raised in our own country, to the process claimers, who had nothing and were working in the dark because they heard there were fortunes in ramie. These parties, one and all, were writing to their papers and to Congressmen that "they were doing all and more than I was doing and needed no help.")

(The poor, ignorant dupes; they are all gone and heard of no more. Now, though, the story is that some have formed ramie companies to manufacture ramie. Yes; they can do as is done with silk—import the yarns and weave and knit into goods, from Europe, and call that manufacturing; but it is not promoting the ramie industry in this country—only helping European industry. What we want is the whole thing in this country.)

All sorts of impossible achievements were promised to induce the investment of capital. If all the money wasted in the abortive attempt by bogus companies and the bona-fide, but ill-directed, efforts had been used judiciously, the ramie industry to-day would be firmly established. The industry, however, is bound to come. It grows where cotton will and where cotton can not grow. It does all that cotton does and much more that cotton can not do, while the same can be said of ramie in comparison with hemp, flax, and silk.

NOT A SUBSTITUTE, BUT A RIVAL.

Profiting by past experiences, I would deprecate any attempt to put it on the market as a substitute. The very fact that the fibers in common use have been with us so many decades and are cultivated and manufactured on so large a scale would prevent success on the score of price. But the possibilities that it ultimately will compete with cotton, flax, hemp, jute, and other fibers are in evidence. It can be easily treated and universally grown. In fact, it does now compete with flax. It can be bought at prices varying between $90 and $200 c. i. f. I have bought it at both figures. Take $150 as a safe figure. At that price there are many articles that could be imitated by ramie and sold at the same price at a profit. But why imitate when ramie is endowed with such superiority that, even if it cost $200 per ton, hundreds of articles could be made that would command a huge sale at special prices? Sir Thomas Salt made a collossal fortune out of one article—alpaca. Lord Masham and Mr. Lister made millions out of raw silk waste. Messrs. Holden and many others of our merchants, manufacturers, and princes did the like with some specialty. There are hundreds of specialties waiting for the enterprising manufacturer who takes up ramie. I have always maintained that ramie should be started on its own merits, and in this I am pleased to see that such well-known authority as Sir George Watt, bart., fully concurs.

RAMIE'S WEARING PROPERTIES.

The importance of ramie standing by itself is never so apparent as when its wearing properties are considered. It wears remarkably well. I made myself a ramie waistcoat ten or twelve years ago. It is being worn to-day, and must have been washed a hundred times at least. It has much wear in it yet. Again, I sent out a ramie khaki tunic to a trooper in South Africa, who wore it night and day during the war. It outwore three cotton tunics worn under the same conditions by troopers in the same company, and is still good enough for plenty of service. The wearer was called the "Duke" of his company; he always presented so respectable an appearance. Another ramie tunic was looted from the train, and I expect one day the Government will receive the inquiry from South Africa, "Can you tell us what material this is? Our men can not wear it out." An experiment is always being made with a servant's dress. It has been used for the hardest work in the house, but it simply will not wear out. For hard wear no other material competes with ramie. Apart from its beautiful luster, its toughness and its nonelasticity make it eminently suitable for a wide range of products. While mixed with wool it imparts nonshrinkable possibilities to that article. Some of the articles for which it is preeminently suitable: Fishing lines, nets, sailcloth, tarpaulins, tents, ropes, lines, and shop blinds, where exposed to damp is inevitable; machinery belts and driving ropes, incandescent gas-mantle fabric, and measuring tapes, where rigidity is an advantage; table linen, dress goods, velvets, curtains, laces, and tapestry, where beauty of appearance is desirable. It also makes ideal hygienic underwear and the best surgical dressing. It should be noted that its luster is absolutely permanent, and in no degree spoiled by washing, dyeing, or other manufacturing operation.

A CASE FOR GOVERNMENT HELP.

Now, the position of ramie to-day is this: All agree it has wonderful possibilities and merits. Everyone speaks of its good and no one can produce anything against it. Yet so far it has made no headway in this country, for the reason I give in the foregoing lines. The question therefore is: How can we bring about a different state of things? I should say only by reversing the mistakes of the past. First, our Government, India office, Crown colonies, and the boards of agriculture in all our colonies should send out a pamphlet expatiating on the merits of ramie, offering help in the form of seed, plants, etc., and advising on methods of cultivation. Bonuses should be offered for the production of ramie, and decorticating and degumming manufacturing central stations should be established.

(Here the cart before the horse again. All this will be good when the factory is established to make the goods and the capital secured to contract for the material, and not before.)

I do not recommend degumming stations and manufacturing except on a large scale. Small parcels of fiber can be shipped and the degumming can be done there. Small farmers wishing to start ramie can do so without any great delay, and they can prepare the fiber for export without costly machinery. The establishment of the ramie industry on a large scale is a splendid opening for our capitalists.

After all, it would not be a very great undertaking. We have hundreds of capitalists capable of fostering the industry. Let the planters turn their attention to ramie, and for every ton grown two more will be required for many years to come.

To our manufacturers I would suggest they study the merits of ramie and start the manufacturing of those articles to which the properties of the plant are peculiarly adapted naturally. In conclusion, I should like to emphasize the fact that there are no difficulties now existing as regards the growing preparation (decorticating for the factory) of ramie. The crux of the question is the capital and the supply of the raw material. There are many other points I would speak of, but space forbids. I think, however, the foregoing is sufficient to prove that ramie is undoubtedly the textile of the future.

P. S.—Since writing the above I learn that the Germans and French are fully alive to the potentialities of ramie. The Germans in their African colonies, by subsidies, are encouraging its growth; the French in their Asian colonies, and are even offering inducements to our Indian planters. When will our people take the lead and not wait for others to show the way and capture the trade? If we are to compete with go-ahead nations we must not let "I dare not" wait upon "I would." We cling to old methods, ideas, etc., till others step in before us, and then at the last moment, for self-preservation, we adopt the example of others set us and have to put up with "bread and cheese" profits, when we might have pioneered and had the "cream."

I say nearly all this now, and haye said as much and more all along, if only people that ought to read it would lay aside their ignorant stubbornness and listen to the truth they could see that this is a very difficult industry to start, and much worse than if no mistakes and misrepresentations had been made.

If further information is required as to how to procure seeds or plants, cultivate and prepare the fiber for the market, and dispose of the produce, or advice as to how planting and preparing for the market, the installation of degumming and filassing stations, manufactories, etc., I shall be pleased to afford any assistance I can give to inquirers. Stamps should be inclosed with all applications, and as a proof it is not an idle inquiry.

[The Southern Commercial, December 15, 1906.]

Ramie: A new vegetable silk—Another American industry awaiting development.

In connection with the other plans in booming Washington as a manufacturing center an effort is being made now to secure capital for a ramie manufacturing plant. The chief authority on ramie in Washington for a number of years past has been S. H. Slaught, who has had a number of bills before Congress and endeavored to interest the Government in the manufacture of the fiber.

Most people in a general way know what ramie is, but few of them have any intimate knowledge of it. The plant belongs to the nettle family and is a perennial—that is to say, after it has been cut down to the roots or winter kills, the plant comes up next season as strong as ever. It is a hardy plant, and will raise two or three crops a year, even as far north as Washington. It is better than hemp or flax, and rivals silk in strength and almost in fineness of fiber, and has the same gloss that characterizes silk. In fact, the fiber[a] is imported into this country now, and is very largely mixed with real silk, making goods that are as lasting and almost as brilliant at a fraction of the cost.

With all these advantages there is[b] one drawback in the plant. That is that the long and valuable fibers are held together with a gum that is almost impossible to remove, and till it is removed it is not in condition for spinning or weaving. This difficulty is overcome by the Chinese, who clean and manufacture the fiber by hand, making about a pound and a half of cleaned fiber per man per day. Of course this can not be equaled by hand labor in this country, and the result is that ramie has never been ranked here as a profitable crop Also the tariff has been against it, for there is a duty of 15 to 45 per cent on ramie yarns of all classes, whereas the intention of the bill as it was first drawn in the Dingley Act was to assess a duty of 15 per cent on the coarse yarns graded up to 50 per cent on the finest. With this amount of tariff protection there would be a satisfactory profit in raising ramie, and the chances are all in favor of its becoming almost as valuable a crop as the cotton crop, while it would be adaptable over a much larger area than is comprised in the cotton belt.

The secret of cleaning off and of degumming ramie without injuring the fiber, Mr. Slaught claims to have discovered, and it is on the basis of this process that he wants to establish a factory here. He has approached a number of influential capitalists and everybody has held back waiting for the Government to appropriate money for the initial demonstration. The promise has been given by a number of Senators and Representatives that such a bill would be passed at the next session of Congress, but in the meantime some of the railroads have taken up the matter in the belief that it would form an important crop for their lines to handle. Two of the companies have taken up the matter and have promised to use their influence with Congress to get through a bill for the initial demonstration, as well as to take stock in the establishment of an American factory. A good stand of ramie will produce two or three crops a year and will yield from 2,000 to 3,000 pounds of dried and baled fiber to the acre each season. Thus it will be seen that the yield would be an important factor for the railroads if the industry could be established, and there would be no trouble about the farmers raising the crop if they were sure of a market.

Local merchants interested.—Now, several of the merchants and department stores in Washington have taken interest in the subject, and having been shown samples of the fiber and the goods, of which Mr. Slaught has made an extensive collection, they are seriously considering the formation of a company to develop the process and manufacture of the goods. There would be considerable money involved in the establishment of the demonstration factory, but it is believed that the money can be secured. Mr. Slaught has an option on a suitable building on Pennsylvania avenue, not far from the Capitol, and says that all the necessary machinery could be installed and separate motors used for each of the machines, so that there would be no objection to the plant in the heart of the city, either on the score of noise or smoke. One of the first things to be manufactured in the line of wearing apparel would be underclothes, shirts, socks, etc., which can all be made from the fiber, and are just as handsome, a great deal cheaper, and more durable than silk, and can be made better than anything that is imported. It is believed if there is an establishment for turning out goods of this sort, when a few Congressmen have been fitted out with garments, there would be no trouble about getting all the money needful appropriated for a larger factory.

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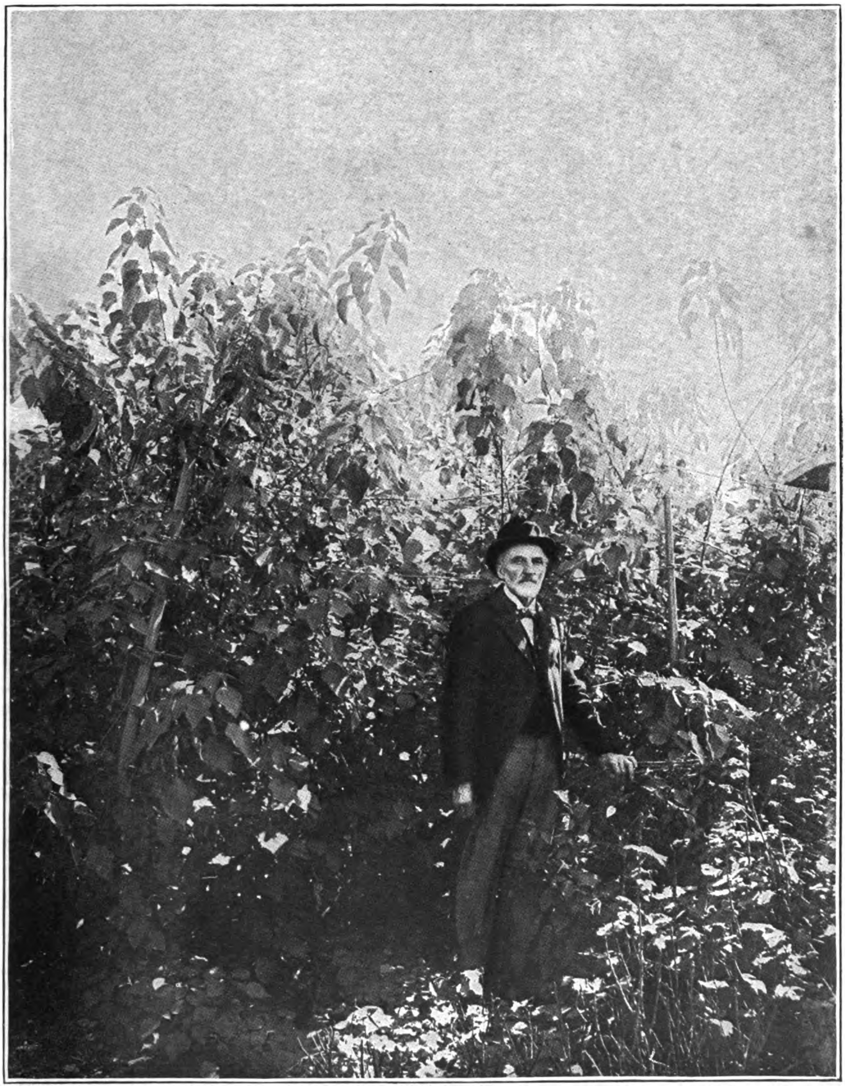
[a] The word "fiber" should read "fine yarns."

[b] The words "there is" should read "there has been."

For the present, though there is no trouble about growing ramie anywhere from Washington southward, the fiber used to start with would have to be imported. Ramie has been growing in the Botanic Garden at Washington for over forty years, growing wild with no attention beyond that given to any of the outdoor plants, and the Department of Agriculture some years ago gave Mr. Slaught permission to use a plot of the experimental farm on the flats, where he has raised successive crops of ramie, showing that it is perfectly adapted to this climate. That there is no difficulty about the manufacture of either ramie yarn or finished goods is shown by the amount of the finer yarns that are imported annually into this country, where they are used in mixing with silk in the mills of Paterson, N. J., and elsewhere. There is one establishment at Emmendigen, Baden, Germany, that turns out over 1,250,000 pounds of ramie yarn a year. All of the fiber used there is hand cleaned, imported from China. The same is true of two factories now operating in France. There is an immense amount of ramie cloth manufactured in the Orient, all by hand.

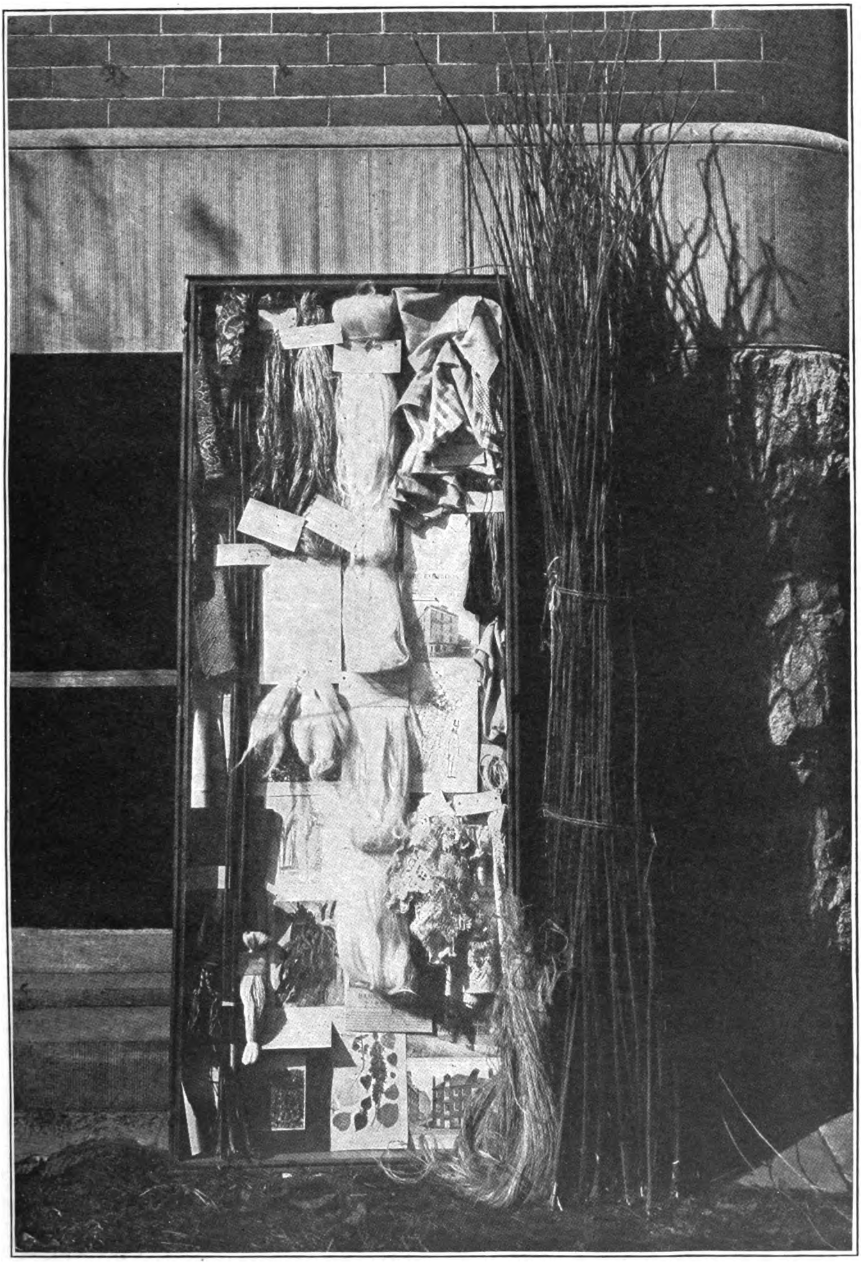
Its native whiteness needs no bleaching if it is to be used colored, and it would take an expert to tell it from white silk. Owing to this white tint of the finished goods, it needs no bleaching before dyeing, and it takes colors just the same as silk if dyed. Although high priced for the purpose, it makes the finest possible quality of paper, and while it is too expensive and the paper too valuable for common use, it is unapproachable for bond and stock paper.

One other use that has been made of it in this country for years past is the manufacture of fishing lines. Its remarkable strength allows a line not much larger than a pin to be manufactured that will stand a breaking strain of 200 pounds. There is one factory that makes a specialty of this hand-spun line. The hand-spinning process makes them costly and a single line is worth 50 cents. But they are almost indestructible and waterproof. The fact that ramie has been used so long and successfully abroad and so much of it imported here makes it seem strange that its culture and manufacture has not sooner been taken up. If the enterprise can be started in Washington, it will be the first of its kind in the country, and there is every prospect that it will add another and very profitable crop to the list already at the disposal of the farmer and will establish a new and very important industry in America.



RAMIE PLANTS GROWN IN WASHINGTON, D. C., BY S. H. SLAUGHT, UP TO 1902, ON THE UNITED STATES AGRICULTURAL GROUNDS SINCE 1894.

They are a season's growth, ripened seeds, and are now on exhibition at his office, street NW., and at the Maltby, Senate Annex.



A PHOTOGRAPH MADE FROM THE CASE OF THE EXHIBITION OF RAMIE AND RAMIE PRODUCTS, AND PRODUCTION IN WASHINGTON, D. C., BY S. H. SLAUGHT, AT THE MALTBY, SENATE ANNEX.

Exhibit of ramie products and its manufactures in Washington, D. C., and all over the United States, in the interest of its promotion as a "National industry," by S. H. Slaught. This was the case of exhibit put up in Agricultural Museum (until torn down in 1905) by S. H. Slaught, in place of plate 196, with which he replaced the fake exhibit left by the deposed fiber agent.

WASHINGTON, D. C., *April 27, 1906.*

To the Committee on Manufactures,
House of Representatives and Senate of the United States.

GENTLEMEN: I presume it will be well to tell you how I came to be interested in the ramie industry, and engaged in promoting it. I think there is lots of money to be made out of it, not only for myself but for the whole country and everybody that wants to go into it, when once promoted in the right way and gotten in proper shape.

I went to New Orleans in 1888, and there first took up the industry of ramie promotion as a business.

I had been brought up from early childhood in western New York, where my father had farms and all kinds of machinery and tools, carpenter and blacksmith shops, and manufacturing; and as I had a natural liking for all kinds of mechanical work, and we later had foundry and machine shops, took a great interest in it and became quite an expert in general lines, not only in manufacturing, but in using machinery both on the farm and in the shops and factories. Then I went to war for three years, 1862–1865, and having been broken down in health I engaged in lighter employment; mercantile, for a few years; then in the Indian service under General Grant in the far West, where the climate was so bad that I had to give it up and seek a place for health, which I found in southern California, in that genial winterless climate, where I engaged in business, interesting myself in manufacturing, machinery, and real estate for about seventeen years, when I retired and took a pleasure trip to the Eeast, through all the Southern States.

I stopped in New Orleans ten days, in which time I became deeply interested in ramie, and then continued my trip to Florida to visit my mother, whom I had not seen in seventeen years. I stayed in Florida over a month, visiting her and traveling considerably over the State, and ended in Jacksonville, from which place I had made arrangements to take an excursion to California, but, providentially, I presume, the yellow fever broke out there and prevented me from going; so I stayed there ten days longer investigating the yellow fever, a new thing for me, but found every avenue closed to further travel but one; so as I had had as pleasant a time as I could expect under the circumstances—though I had a good, safe place at Mr. Folsome's mansion and boarded with the health officer and was entertained by him, all one could desire, in his line of rounds, in his work with fever problems—I concluded the nicest thing for me to do was to take advantage of that one avenue out of at least an unpleasant situation, if not for my health at least for my sympathy for so many people in such unfortunate circumstances, and I went to Atlanta, where I stayed for two weeks looking over the old battlefields of Sherman's "campaign through Georgia," in which I had so enthusiastically taken part twenty-four years before. There I spent two very pleasant weeks indeed, but found the place and people so changed; in fact, a new and resurrected Atlanta.

On the way up from Savannah some of the people on the train from there, in talking over the war and its effects, wanted to know why we did not burn up Savannah also, so they could have built up a new and great city too. Well, after remaining fourteen days in Atlanta I was eligible to and did go to Chattanooga, Tenn., where I was entertained a whole month looking over old battle grounds and enjoying the beautiful scenery, climate, and hospitality of the people. Then I hied myself away to Cincinnati to the great centennial; then to St. Louis to the Veiled Prophet, and where I found my old friends, with whom I had become acquainted as tourists in California, among the most appreciative ones being my dear friend, the late Hon. Erastus Wells, who had spent several winters in Los Angeles, and with me so much that they called us brothers. I stayed with him a few days, and his son being treasurer of the horse fair, then in progress, I had free access to the first quality exhibitions of the Veiled Prophet as well. From St. Louis I went on the steamer *St. Louis* a nine days' glorious trip to New Orleans, where I renewed my interest in ramie, taking it up very thoroughly, looking into all the features of it from the growing and the manipulation of the stalks in decortication, as well as ungumming the fiber after cleaning. Then I took up thoroughly the causes of the great failures in their attempt to promote the industry, and I found that the main reasons were that they did not take up first the manufacture of the fiber, at least into yarn, if not into goods for home consumption, or at least into thread, when silk was worth $12 a pound, and in the place of long wool, worsted, camel's hair, alpaca, and linen; but I found that the only object that they seemed to have was to raise ramie and prepare it to ship abroad in the place of cotton to where ramie was worth half as much as here. Why should anyone be so negligent of the real value of ramie as to think they must do so foolish a thing as that?

Ramie being as glossy as silk, and almost as fine, and a 6-inch staple, why should it be used in the place of cotton at all, especially at first, unless in something that cotton was not good enough for? It should be used mainly in the place of silk, alpaca, long wool, worsted, and linen; mostly in place of those things we are importing, and in large quantities too, and at high prices as well. I found that they had decorticators that would do the work fairly well, but no market for what they made, as the fiber is not cleaned by a decorticator at all, nor never can be done economically by one. The Chinese both decorticate and clean by hand, but a machine must never be expected to do that work too, economically, or in any way to pay. That must be done by a process in a factory and handled by machinery, in large quantities, to make a success of it by us in this country.

Then the by far most important part was still lacking—a process and machinery to ungum and separate it; and if they could not ungum the Chinese already hand cleaned, they did not need to raise ramie, nor make machines to decorticate it, nor even clean it. So I went to investigating that more particularly also. I found that they had not understood that matter at all and had not developed the manufacturing, even the idea of it.

That was the first and most necessary thing to do to make any kind of a success of it at all. I also found that they had not ungummed ramie at all, and did not seem to know that ramie fiber was really short, when it is really from 2 to 3 to 6 inches or more in length. I did not find any ungummed at all. What they had done was to overclean it to export to a country where it was worth about half what it was here, and in doing so came in direct competition with oriental cheap labor—not here at our home, but at his own cheap home—then add to that the freight, commissions, profits, and besides the great loss in weight by having overcleaned it. I went to looking up the processes of the world, so far as I could, and found none that filled the bill, so I went to work and thoroughly investigated the substances that had to be removed and what would absorb them without injury to the delicate fibers.

I spent three years in all this work and finally satisfied myself first, then I went to work to interest the men there that had spent so much time and money and had given it up because their way did not pay them, and could not have done no matter what they accomplished without a home market, and in a manufactory to make the goods and put them on the market at home first and then abroad when our own market was supplied, which is the best in the world.

I finally satisfied them there of the correctness of that, and as they had not understood the fiber nor the situation, as I showed it to them. The Maginises there were manufacturers of cotton and had been all their lives and their father before them also, and they told me that they would, when they finished their mill that they were then building up—a whole block in New Orleans—help me to start, as they believed I was right about the fiber and the manufacturing also; but the brother was killed by lightning, and as there had been spent several hundred thousand dollars in trying to start the ramie industry there they said we must have tariff protection on it anyhow, and if the Government would do that and assist in making one demonstration they would try to help me start it. So I corresponded with the Agricultural Department and received encouragement from them.

I came to Washington, after first organizing a company in New Orleans and one in Mobile, Ala., with the best leading men, who put up some money and agreed to put up enough more to start it if the Government assisted in demonstrating it and gave the proper protection. When I arrived in Washington, I got the bills introduced in both Houses of Congress, but it had taken so long to make all these arrangements and get the bill, which was agreed to by the Agricultural Department and the bill written at their desk and recommended by the Secretary to Congress, in a letter of seven pages, to the House committee, but this was so late, and the force bill came up and the Democrats scattered, and some of the Republicans being away, too, it was impossible to get a quorum, of course it could not be reached, it then being almost November, 1890. They adjourned November 4, I think, but promised me that I should surely have it the next session; but Congress changed, and the next administration was wholly Democratic and the subject of industries was in adverse hands. Mr. Willets tried to help me with the new Secretary, Mr. Morton, as long as in and even after he went out in 1893 or 1894, but when

Mr. Dabney came the fiber business was all put under him and he kept up the opposition the agent had started against the ramie industry, as it would, as he thought, let him out if we succeeded in promoting it. This agent, under Dabney, managed to influence Hilgard, in California, the Agricultural experiment station agent there, to work against me in California.

As I could not do anything with or for an industry with such an administration, I went to California to interest them and try to start it with capital, or with State aid, so canvassed the State and got the people interested, but it was very hard times there then, just after the very flush year in fruit; there having been no fruit East, the fruit men had a big profit in 1890, and in 1891 everybody had gone wild with planting fruit trees, and put all their money in fruit in some way or other, and the next year everybody was flat broke up, in some way, as they could not sell their fruit to pay anywhere, and those who invested in companies to buy land and plant out more were busted.

So, as I had convinced them that ramie was good, and more in the end than fruit, they yet would have a competing railroad before starting a new industry, as the old roads had not reduced their rates so as to allow them to ship their fruit in a bad year. I then went to work to encourage them to and help them to build a competing road, and in the same year helped them to secure the winter fair to come from Chicago. Then having secured splendid petitions from the State world's fair commission, the State board of agriculture, and the State officers, banks, manufacturers, chamber of commerce, board of trade, prominent business men, and merchants, I came East to see about getting machinery and if possible get Government aid and capital to make a thorough demonstration in the winter fair. I stopped in Washington to see the then Secretary of Agriculture, Mr. Morton, and he gave me great encouragement that the Government should assist me. I went to New York and Boston, and finally to Worcester, Mass., where I got the Crompton & Knowles Looms Works interested to let me have the machinery, so far as they could build it, to start the first factory, as it would help them to furnish machinery for many factories.

When I came back to Washington I found Mr. Dabney in office and opposed to any industry in this country, as you all know that the Democrat party gained their innings on that layout. They fought me through that memorable administration; keeping the so-called "fiber agent" in to do the dirty work, as Dabney said, "The Republicans put him in; blame them," which he did by all sorts of misrepresentations and out and out lying out of whole cloth, and the self-evident facts that anyone can see for themselves by half an eye or a little investigation reading the abundant proofs. It is so strange to me that people, and especially Congressmen, who are supposed to be a little "sharp," but many of them do not seem to want to see anything but just what they are specially sent here to do for their home bosses. At any rate, I succeeded in getting the agent out, and getting the Secretary to send to oriental countries and procure ramie seeds and roots and bring them here and grow ramie from all over the world as far as possible, and make a report to me, and they found that all they procured from everywhere was just the same as I was growing in the agricultural grounds, and for forty-nine years in the Botanical Garden, brought here by Doctor Shaeffer, librarian of the Interior Department, and that it all grew just the same, some two or three crops a year, and ripened seed on the last crop. I contended that it required a factory to make the goods in order to start the market for the farmer to go to raising ramie, and now, after fifteen years trying their way, spending hundreds of thousands of dollars in the effort to keep me from starting it right, the Secretary of Agriculture has just written a letter to the Committee on Manufactures, United States House of Representatives, that there is no trouble in growing ramie in this country, and that the trouble is in demonstrating the manufacturing problem of it.

S. H. SLAUGHT.

WASHINGTON, D. C., *June 29, 1906.*

In 1890 I came to Washington, D. C., to try and start the ramie industry, as a great American industry, in the interest of all, and after having received great encouragement from the Agricultural Department, which the following letter will show:

WASHINGTON, D. C., ——— —, *1890.*

Mr. S. H. SLAUGHT, *New Orleans, La.*

SIR: Yours of the 2d instant to the Secretary has been referred to me.

You ask the Department to help your company in the purpose to manufacture ramie into fabrics, but you do not indicate exactly what direction you wish our efforts to take. Of course you are aware that the Department is the servant of Congress in all matters of this kind and that it is limited by any instructions Congress may see fit to give in connection with its various appropriations.

Inasmuch as no appropriation has yet been made, and as the culmination of any project which may be entertained in this regard is in the future, I would suggest that you await the action of Congress, and then should the means be furnished, that you submit in detail any proposition made in accord with the terms which Congress may impose—which you think will accomplish your purposes.

While I can not pledge compliance in any respect so far in advance, I do not hesitate to say that any practical suggestion from a practical man will receive careful attention.

Yours, very truly,

EDWIN WILLETS,
Assistant Secretary of Agriculture.

But I did not get here until the latter part of July, and could not get the ramie matter taken up until in August, when it was too late to get the committees to procure a quorum to pass upon it. The force bill having been brought up, the Democrats scattered and a few Republicans were away also, as usual, and no quorum could be obtained. All seemed anxious to grant an appropriation then, and promised me that I should have it sure the next session; but lo and behold, Congress changed, and the result is in history. In 1899–1900, after I had succeeded in getting the agricultural agent for fiber investigation out of the business and the $5,000 a year which was used principally to fight me and the ramie industry in this country discontinued, I went to the Secretary of Agriculture to get him to send to oriental countries and procure seeds and roots and prove my position and statements.

I finally got him to send to his agents already out, to do the best they might be able to do in procuring seeds and roots and bring them here and grow them here in the agricultural grounds, officially themselves; and he agreed to do so and make me an official report, in order to prove whether I was growing ramie or not; and I have stayed here and worked at my own expense for five years assisting them and really doing the work, and seeing that it was properly done. I have succeeded in getting reports that officially admit that all that has been obtained are proven to be just the same as I had been growing everywhere, and in the agricultural grounds was ramie, and all the specimens were botanically alike, and all grew here two or three crops a season, and ripened seed in the fall.

I now publish here statements in letters and the reports that substantiate the facts, and showing the position formerly taken by the Agricultural Department was wrong.

The agent was misrepresenting me and the ramie also. He is gone, I know nor care not where, but I wish he was responsible for the damage he has done me and the whole country, and I think he ought to be handled personally by the Government, so severely that it would be a lesson to others in the future. Too many times have the employees of the Government used their positions to the detriment of the people, the Departments, and the individuals also.

Very respectfully submitted.

S. H. SLAUGHT.

UNITED STATES DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, D. C., March 17, 1900.

Mr. S. H. SLAUGHT, *Washington, D. C.*

DEAR SIR: Your letter of March 14, suggesting the exploitation of ramie culture by this Department, has been received. The Department of Agriculture will grow small experimental plats of this fiber plant on the Potomac Flats during the present season, and we have already instructed an agent in China to investigate the methods of growing the plant and handling the fiber in that country.

I have asked Congress for an appropriation of $5,000 to enable the Department of Agriculture to investigate the status of the various fiber-growing industries of the United States. If this appropriation is granted, the Department will be able to include ramie in this investigation. It would be impossible, however, to go into such an exhaustive exploitation of ramie as you have outlined without a much larger sum of money, and I would not feel warranted in devoting the energies of the Department to ramie in preference to such other important fiber plants as hemp, flax, and Egyptian cotton unless specially instructed by Congress to do so and with funds appropriated for that specific purpose.

Very respectfully, yours,

JAMES WILSON,
Secretary.

WASHINGTON, D. C., *June 27, 1906.*

By special request by S. H. Slaught, to the Secretary of Agriculture, March 14, 1900. As by letter to me from him March 17, 1900. Herein inclosed, officially, in the Department of Agriculture.

When he did not get this appropriation of $5,000, as he agreed to try to do, I requested him to send to his botanical agents, already in the field, and get them to do the best they could in procuring information, and seeds and roots of ramie, and bring them here to the Department, and have them grown, and make me a report officially, so to determine what was ramie, and the best kinds, and whether any of them would grow in Washington, or anywhere in this country; to which he assented, and told me at my request, that I might see the agent and tell him to send for them. This was after Congress had adjourned, and he had failed to get the $5,000 special appropriation, or toward fall. In the spring of 1901 some ramie seeds having arrived from Italy, whether grown there or not no one knows, I got Mr. Saunders, the then superintendent of the agricultural grounds, to plant them in the hothouse bed, and he raised successfully about 1,000 plants. These plants grew too long in the bed, and I got Mr. Saunders to have them potted in small pots, where they again grew too long a time, he having saved only 600 of them. I then got him to transfer them into 4-inch pots, and in so doing he saved only about 400 of them. He had finally to remove them to the cold bed, to keep them at all until they could be planted in the field; which I was anxiously waiting for them to do, and they were putting off for want of room, as they said.

I finally went to the Secretary, Mr. Wilson, and told him it looked to me that it was not going to be done at all. I said to him, "Now, Mr. Wilson, you told me that you would have these seeds and roots of ramie sent for and grow them officially and see what was ramie and what, if any, would grow in Washington, D. C., and what was the best kinds and make me an official report, didn't you." He told me that was so, so I told him that I did not believe the men meant to have it done at all and that it was the very last day that it could be done, possibly, to have any kind of an experiment at all worth doing; that they had almost spoiled several times already, and out of 1,000 plants from the seed there were only 400 left, and they were spoiling in the cold bed; so he told me to have Dewey to put them out on the island, and that he, Mr. Wilson, told me to have him do it.

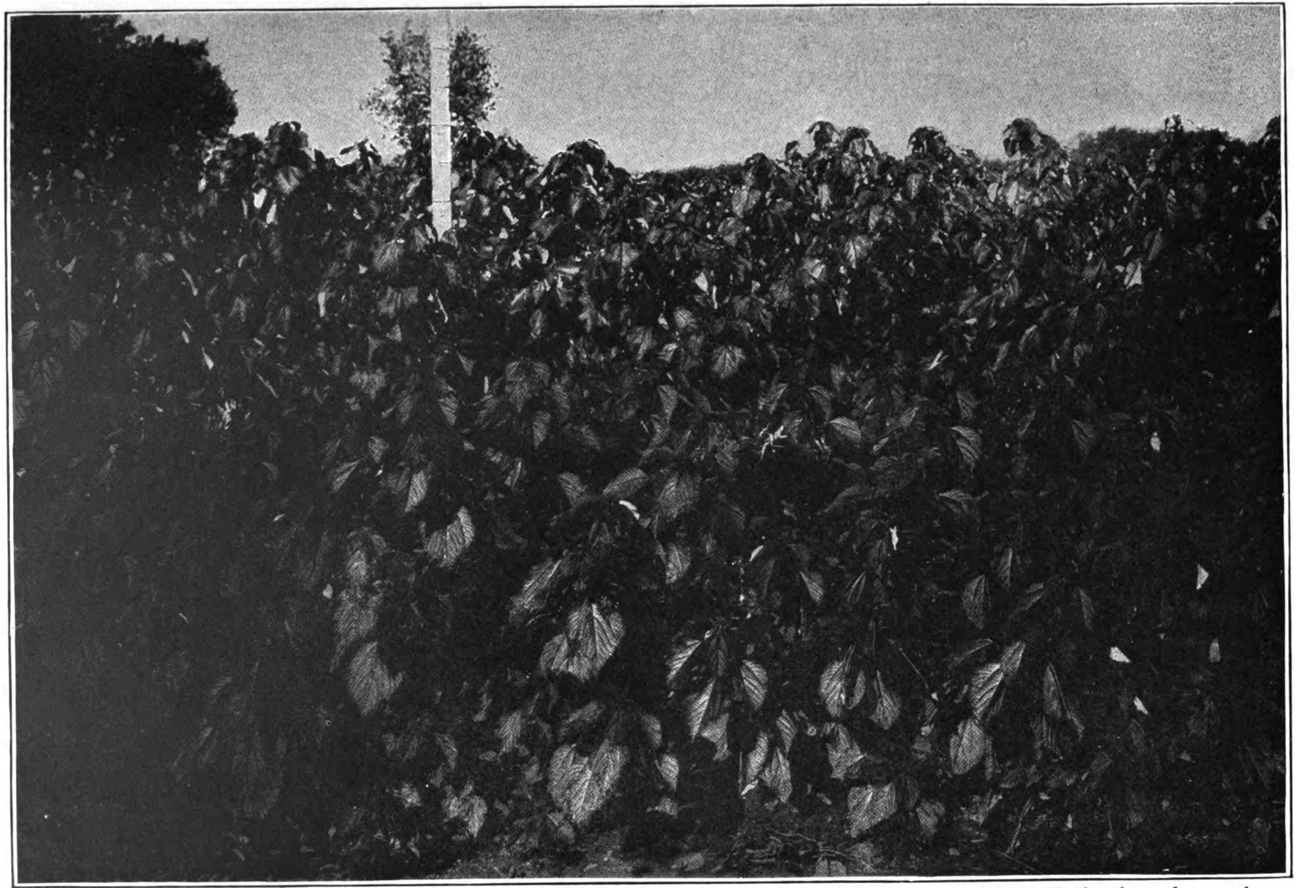
I went and told Dewey, and he said he would have them put ont the next day, August 30, 1901. That day I went over to the island to see what they would do, and found them putting only 100 of them in one long straight row and 3 feet apart in the row. Of course I objected, saying that was no way to make any experiment worth anything at all. Mr. Dewey told me that he had no other room for them. I asked him if he could not spare 2 square rods of ground. He thought he could do that, and I told him that was all, and just what was wanted to make any kind of a trial so late in the season; but I wanted to know where the others were, as they had only 100 of them there. He told me he thought he had them all; but I told him no, there were 400 of them all, and I wanted them all, at least 300 of them, put on that much ground, a foot apart, or so, which he agreed to do, and did.

I told them to plant them rather deep, as they had so much age, and to leave a scooped out place around each of them to fill up afterwards, which they did, and to water them if there should be a dry spell in the season while starting.

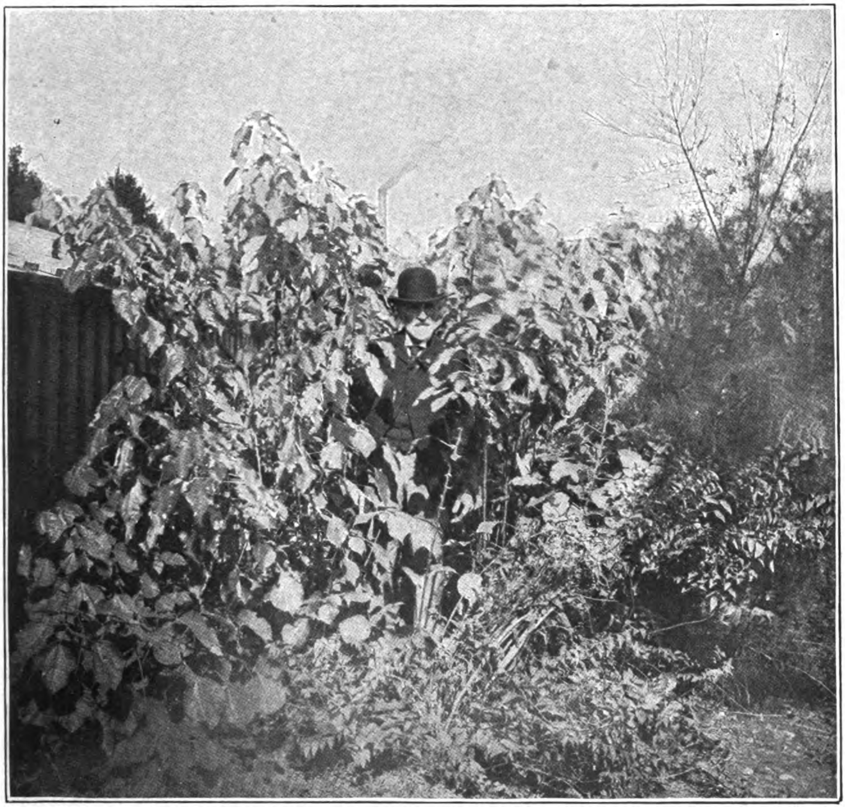
These plants grew up to fully 5 feet high and ripened seeds, which I gathered on the 26th day of October, 1901, as I well remember, it being my birthday. Soon after this they told me that they were going to rearrange the grounds and would have to move them that fall. To that I, of course, objected to, as it would be a great risk, and there had been too much neglect already; but they persisted, and late in the fall, after all chance of the roots taking a new hold in the ground to withstand the cold winter, they moved them to their present position, where, after a very tedious winter, they managed to save a very fair stand on most of the patch; but as they were so thin, and though mulched very bunglingly, I managed to grow two tall crops in 1901, but not as fine as could have been done if they had not been moved.

I took all the care of this ramie patch and growth that season, and the next spring, 1902, the whole thing seemed to be ruined somehow, so I waited and watched until some time in June I went over to see how things stood, and found the plants, stalks growing up very scattering indeed, some of them just sprouting out of the ground, others on one corner some 3 feet high but very stocky and coarse, with the leaves all thick and crinkly. I was sure that the patch had been salted some time in the winter. I gathered some of them and the leaves and took them over to the chemist, where they found some indications of salt, and made me a proposition to go over to the ground and see and get some samples of the soil and analyze that, so I went with them and we procured samples of the soil all around. Of course, after so long a time the salt would have been washed out very much, what had not been absorbed by the plants, and I did not expect to any more than get extra traces of salt; but I think the report shows abundant proof of it having been salted, and by somebody more or less viciously. One place in a hollow, where the plants were just sprouting at that late time, showed as much again as in others where higher drainage was reached, and where the ground was thoroughly worked and near an old hotbed the roots were stronger and had stood the winter better, as well as had more chance for the salt to wash off.

In the spring of 1902, the second year of this demonstration, they also received some ramie roots from China and Japan, which were planted along by the side of the Itila plants and grew up with them, and appeared to be of exactly the same kind, but were a little lighter leaf, probably showing that they had been growing on a yellow clay soil, as they do to a great extent, and where they have grown ramie for thousands of years, undoubtedly, of course, they have to fertilize it to a great extent. That is the reason that some of our consuls have said in writing about them that ramie soil needs high fertilizing. Others who have seen it grow and have looked more thoroughly into it have rightly said that ramie needs very little fertilizing, if any, as it is composed of so much moisture, and the roots penetrate so far into the earth, and then nothing but the mere fiber is necessarily taken away permanently. The accompanying photograph represents the growth for the season of 1902. Two crops, some 6 or 7 feet high, of which I have the samples on exhibition. I gathered the seed in November that year, and the stalks also with which to make a demonstration in paper making, and stored them in the barn and shed; but that winter the War Deparment filled in a large tract of land and



Ramie grown in Washington, D. C., from oriental countries, procured by the Agricultural Department, at the request of S. H. Slaught, and grown from seeds and roots to prove that ramie would grow in Washington, D. C., on which he has the official report, that all specimens procured everywhere were just the same as he had been growing successfully all the time all over this country, and especially in Washington. Samples of these stalks are now on exhibition at his office, street NW., and at the Maltby, Senate Annex.



Ramie grown in Washington, D. C., by S. H. Slaught, in 1901, and is the second growth after July 17 and from roots from seed in Agricultural Grounds, said seeds from Italy and oriental countries, as well as some that have grown in Washington for many years, which have been proved to be the same in all respects, and now on exhibition by S. H. Slaught, at street NW., and also at the Maltby, the Senate Annex.

made it impossible to get them out on account of surrounding the place with water and mud.

When it was possible to get at them the agricultural men had ruthlessly pitched them out into the manure pile, thus wasting them all. This seems to be the delight of the agriculturist sympathizers, as they managed to do something wrong and mean with every year's crop and experiment. One year they were salted in the agricultural grounds, and the next year they stole the roots I had taken out in a pile to be removed to some safer and better place. Then, the next year, what few I had left were planted in another more protected place and grew all summer—a small bunch of stalks—to about 9 to 11 feet in height, and just as I was about to use them for an exhibition for some capitalists, to interest them, some of the men, without any authority, cut them all down and sent them to some decorticator experimenter. Only think of it, stalks 9 to 11 feet high, all branched out and loaded with blossoms and branches, more like little oak trees than anything to compare with ramie fit for decortication. This shows the utter foolishness of expecting ward-politician clerks to do or know anything scientific. The next year, 1903, the farmer and assistant botanist in charge of the grounds made a point of being offended at my proving that the ramie patch had been salted the winter before. The assistant botanist made false statements to the division chief—that I had mixed the plants all up so that he could not tell which was which. So I let them work it themselves, and along in the summer, about the middle of July, I went over to see what they had accomplished, and found the ramie all growing up wild and nothing done with it.

So I went to see the Secretary and told him it was a shame to have so important an industry treated in such a shabby way, or so misrepresented, and let go entirely to waste, as well as loss in expense, especially after I had done so much at my own expense and the Government had gone to ever so little. I told him that he was a farmer himself, and I wanted him to go over and see for himself just what they were doing, or, rather, not doing, and that I would show him all about it, and he could be his own judge as to the situation and whether what they had said about me was true or not. He agreed to do so, but he was very busy, the campaign coming on, and before he could get to do so he was called out by the President and went off for the summer. All that season's crop was wasted, and I paid no more attention to it until last July, 1905, I went again to see the ramie patch on the island, to see what, if anything, they were doing, and found the ramie patch in just the same fix that it had been in the year before, when I had asked the Secretary to go and see it for himself. I now again insisted on his going to see for himself. He referred it to Mr. Galloway, and when I spoke to him about it he told me that he "would not do anything about it, or let me have any land, or have anything to do with it."

This was on account of the misrepresentations made to him the year before; so I told him if he would give me a chance to talk to him I would tell him that these were false as false could be, and that I could prove it to him if he wanted the truth. He politely did so, and I told him that he had never taken up the ramie matter and did not understand it at all; that he had done many favors, and all anyone could ask for me, for what had come to him in orders from the

Secretary for him to do. Now, I thought it his duty to himself, the Secretary, and to me, as well as to the Government and the people. So he said, he would hear me. Just then Mr. Corbett, the farmer, came in, and I explained the whole situation to them and the difficulties in promoting it, or the real problem of it—the manufacturing problem—and what I had done, as well as satisfied him that I had been misrepresented, and that Mr. Corbett knew of it, too. So Mr. Galloway gave me full charge of all the ramie on the island, to do with it what I liked at my own expense. As soon as I got the written order for it I went over to the island and found that the assistant botanist had cut and removed the whole crop, nearly, only leaving a little around the edges as though to hide the depredation. This was done on the 17th day of July, 1905. I luckily had cut some of the first crop for samples a few days before, when I first went over to see it. Nevertheless I went to work and trimmed up the patch in as good a shape as possible and raised a fine crop, which I cut and gathered the seed from the last days of October, 1905, which crops and seeds I now have to show as well as all the crops I have raised or grown here in Washington for the past twelve years.

Yours truly,

S. H. Slaught.

(Exhibit at street NW., and office at the Maltby, Senate Annex.)

United States Department of Agriculture,
Bureau of Plant Industry,
Washington, D. C., July 24, 1905.

Prof. L. C. Corbett,
Horticulturist, Bureau of Plant Industry.

Dear Professor Corbett: Mr. S. H. Slaught has put on the flats a plot of ramie. He desires to grow this ramie in a way that will illustrate certain facts in connection with its best productiveness in this locality. Mr. Slaught is to have this privilege with the distinct understanding that he is to grow the material himself and not call upon you for the labor of any of the men in connection with the planting or handling of the ramie in any way. You will please turn over to Mr. Slaught the piece of ground where the ramie now is for such action as he thinks best.

Very truly, yours,

B. T. Galloway, *Chief of Bureau.*

Washington, D. C., *June 29, 1906.*

To the Public:

I herein print some statements in regard to the much misunderstood question of the promotion of the ramie industry to show how easy it is to be misled in regard thereto.

The large and popular Landreth Seed Company, of Pennsylvania, published a large pretentious circular as though they knew that they would succeed, had a much-advertised exhibition, which over 200 supposed experts did attend, and several newspapers were represented and wrote it up with a great flourish, making it appear that the ramie business was fully and successfully launched.

I had written him in the start that the theory was wrong and that that way could not succeed, as he was starting wrong—as it were, the "cart before the horse." Four years afterwards, on my way East, I called to see Mr. Landreth, and he met me very cordially and told me that I had advised him right. He told me that the whole thing had been a complete failure, as I had told him in advance that it would be, and he would not even give me one of his circulars without scratching out his name on it, and also the company's, and marking it "defunct."

Here is the result of starting wrong end to.

The factory to make the goods and put them on the market must be perfected first, and the growing and decorticating and perfecting of the machines in the work, not before it.

This was their "prospectus:"

The American Ramie Company was incorporated November 5, 1889, under the laws of New Jersey, the organization having previously existed as "The Ramie Company of America."

Incorporated May 16, 1889, under the laws of Pennsylvania, the change in title and organization being to afford a wider field for operations, both agricultural and mechanical.

The object of The American Ramie Company is fourfold:

First. To manufacture machines for removing the valuable fiber from the stem or stalks of the ramie plant.

Second. To stimulate ramie culture in the cotton States by furnishing seed and roots to planters, and by renting machinery to decorticate the crop, taking the bark product at a fixed price.

Third. To degum ramie bark and to whiten the fiber preparatory to spinning.

Fourth. To erect a spinning mill for the conversion of ramie fiber into thread.

All wrong end to, you see. The factory must be perfected first. There is no use of any of the others if the factory is not a perfect success. This should not be so hard to see into in ramie as well as in other things.

Further they say:

While disjointed efforts—individual efforts—have been attempted in the United States during the past ten years, both as respects cultivation of crops and manufacture of decorticators, nothing practical has resulted, and it has remained for The American Ramie Company, incorporated under the laws of Pennsylvania and New Jersey, to make the first notable exhibition of ramie processes.

This field exhibition was made October 10, 1889, at Bloomsdale farm, Bristol, Pa., on which estate the ramie company had a growing crop of 3 acres of ramie, with a supplementary crop on the Virginia plantation of the Messrs. Landreth, the two plantings comprising a total of 200,000 roots.

The test was made in the open field alongside of the growing crop of ramie. The work was divided into three periods:

First. Decortication of ramie stalks.

Second. Decortication of jute stalks.

Third. Decortication of green ramie stalks.

The exhibition, as a whole, was a very novel and a very practical one, and certainly was a very popular one, as evinced by the number and character of the gentlemen present, the guests including the Assistant Secretary of Agriculture, who journeyed from Washington especially to be present at the trial, and many of the most active cotton, wool, and silk manufacturers of Philadelphia, New York, Newark, Paterson, Lowell, and other textile centers. In this connection, it is with pleasure that attention is called to extracts contained herein from several prominent journals, representatives of which were present.

[The Boston Journal of Commerce, November 2, 1889.]

Your correspondent attended the test given at the Landreth farm, 22 miles north of Philadelphia, and can, in a general way, indorse all the newspaper statements that have appeared with reference to the experiments made. Textile manufacturers, who have been dreaming and reading, with incredulous minds of the numerous decorticators of the past few years, are inclined to believe that the present machinery will do the work.

But the decorticator has not started it.

[The Philadelphia Times, October 11, 1889.]

A trial of the ramie company's new decorticator, was made yesterday at the Bloomsdale farm of Landreth Brothers, near Bristol. It was witnessed by a number of prominent business men from various parts of the country, who were transported from this city in a special train and met at the station by Burt Landreth, president of the company. In the party were Assistant Secretary of Agriculture Willets, of Michigan; G. W. Elis, of Rockville, Vt.; E. O. Kauffman, of New York; C. C. Kauffman, of New Orleans; Peter Boyle, of Paterson; Collector Thomas V. Cooper, J, T. Stewart, Richard Garsed, L. U. Maltby, Prof. Samuel P. Saltler, E. Borda, Walter Jones Doak, George H. Stuart, John C. Bottomley, W. W. Flinn, E. Stein, Joshua D. Baker, Richard Campion, Edward F. Mason, Isaac Smith, John Lucas, W. H. Whitely, Joseph Paist, Charles W. Merritt, and J. Newman.

The machine tested yesterday was intended principally to separate the fibers of the ramie plant from the wood. The first test was made by running a batch of dry stalks of the ramie plant, which had been brought from North Carolina, through the machine. A quantity of jute stalks were then put through, and finally the green stalks grown on the Bloomsdale farm. The machine did its work in a most satisfactory manner, leaving the fibers clean and free from wood.

And yet the decorticator did not start the ramie industry.

[The Philadelphia Record, October 12, 1889.]

The trial on Thursday was given by the Ramie Company of America, a Philadelphia corporation of recent origin. Dry ramie stalks from North Carolina were successfully passed through a decorticating machine, which separated the wood from the fiber, and after this green stalks grown on the Landreth farm and freshly cut were subjected to the same process.

And yet the decorticator did not start the ramie industry.

Addresses were made by Assistant Commissioner Willets, Samuel C. Brown, Jules Juvenet, Burt Landreth, and Richard B. Garsed, in which the great possibilities of the ramie fabric were discussed. Mr. Brown, who was formerly connected with the bureau of industry of New Jersey, said that ramie could be very successfully cultivated in the South and to a less extent in the North, on account of the colder climate, and that there would be no difficulty in securing plenty of material if an economical method could be devised of working it up into salable articles.

Yes, this is the real pith of the whole subject. The market must be in a successful factory to make the cleaned ramie after decorticated, and cleaned too, into articles that the people are judges of. Even these supposed experts do not properly discriminate. We have had decorticators for twenty years past that did better work than this machine, but no market for what they produced. As long as no one was able to use the cleaned fiber imported from China, what was the use for decorticators? The Freemery machine did splendid work, and so did the Kauffman, but a decorticator does not clean ramie, and the cleaned ramie from China is worth less in Europe than here, and thus it would be impossible to export it. What is wanted here is a factory controlling a perfect process for ungumming the cleaned fiber from China, and then with the capital to contract for the farmers to raise ramie and a process to clean that crude fiber from the decorticator, thus making it like the Chinese cleaned fiber, that must be at first imported with which to demonstrate the value or profitableness of the manufacture; then, and only then, will capital be secured in a large enough way to make a great industry in this country.

[The North American, October 11, 1889.]

Many efforts have been made to invent machines that will produce a fiber from ramie or jute that can be used as a substitute for cotton or silk for manufacturing purposes, but none have hitherto succeeded in accomplishing the result until yesterday, when the Juvenet improved machine was given a trial before 100 gentlemen interested in textile manufactures on the Landreth farm at Bristol. The trial was a complete success, and the machine will develop the new industry in the same way that Whitney's cotton gin did in the Southern States.

Now, why can't the people, if not the experts and manufacturers, see, or say so if they do, that a decorticator does not prepare ramie fiber for manufacturing at all, and has no comparison to the cotton gin that cleans the fiber from the seed after it is picked? This machine did no more than many others had done before it, and this great trial and the representations were as wrong as any inexperience could have made them. I wrote Mr. Landreth so before the trial, and he admitted it to me in 1894, when I went to see him. His great expectations were that he would make large profits out of furnishing roots to the farmers. But he was honorable enough to admit the great mistake that I warned him of in advance.

A decorticator was not and is not the trouble now.

The capital in a successful factory to make the goods and put them on the market will satisfy the country, and nothing short of that will be understood by the public, or capitalists, either.

I have claimed that the ramie industry can not be started with a decorticator. That is wrong end to. There must be a market first, and there must be a successful factory to make the proper kind of goods and put them on the market permanently, in order to have a profitable market for its production, and then, and only then, can decorticators be made and perfected. Then we may also need some botany, and other etceteras.

There is no market abroad for our machine decorticated ramie, for two good and sufficient reasons. One is that it is worth less anywhere else than here. Do you know of exporting any product to a country where it is worth less than where produced?

The other reason is that they can buy from China cheaper than here and in the shape they only know how to use it, and we can not compete with them here, let alone there, and do not need to.

We can make our own goods as we want them and do not have to make the same goods out of it they do, at all.

Numerous parties and companies all over the country have tried the "ramie industry wrong end to," and many of them have written to Congressmen and Senators, and newspapers, too, "that they were doing all and more than I was doing, and needed no appropriation." They are all gone; heard of no more, and will not be heard of again, I hope.

Yours, truly,

S. H. Slaught,
Washington, D. C.

War Department,
Office of the Quartermaster-General,
Washington, March 24, 1904.

Mr. S. H. Slaught,
General Delivery, Washington, D. C.

Sir: The ramie fiber and materials made therefrom, shown by you at this office, have been examined by the textile expert of the Department.

It is believed that many articles now supplied to the Army by this Department, if made of ramie fiber, could be used with equally as satisfactory results, provided they could be produced at a cost which would admit of their adoption.

Respectfully, C. F. Humphrey,
Quartermaster-General, U. S. Army.

Washington, D. C., *December 27, 1906.*

In a letter to a Member of Congress, who introduced the House bill 11901, for the promotion of the ramie industry, September 20, 1890, the Assistant Secretary of Agriculture said:

> By this bill it is proposed to appropriate the sum of $100,000 to be expended under the authority of the Secretary of Agriculture, and in such manner as seems to him best, in experiments in raising, decorticating, and ungumming the fiber of jute, ramie, flax, hemp, and other fibrous plants, and in manufacturing fabrics from the same.
>
> In consideration of the fact that this Department has been actively interested in fiber investigation for over a year, and that these investigations are being continued, I would say that this measure is a very desirable one, and that an appropriation for the sum named would be of material assistance to the Department at this time in furthering experimental fiber investigations in several important directions, especially in the culture and in the preparation for manufacture of flax, ramie, sisal, jute, and jute substitutes, the latter for the most part adapted to southern cultivation.
>
> That we can successfully grow in certain localities of the United States flax, hemp, ramie, jute, and many other fibrous plants is a fact settled beyond doubt. There is yet a great deal to be learned regarding fiber cultivation, however, and in this field alone many important results may be reached by the expenditure of money under competent direction. The matter of retting, cleaning, scutching, or otherwise separating the fibrous portion of the stalk or straw from the woody parts of some of these plants is well understood, though there is a broad field for experiment in this direction in bringing about improved or more economical methods that will be especially adapted to a "practice" wholly American.
>
> In the case of ramie, however, not so much can be said, for, notwithstanding the experiments of the past thirty years in the decortication of this fiber, both by machines and processes with the Government aid in some instances in the form of a prize or other assistance, the matter of economically stripping and semicleaning the bark from the ramie plant has yet to be accomplished, and, as far as this fiber is concerned, here is the chief field for experiment. It should be stated that there are already a number of fairly successful processes (both in this country and in Europe) for economically degumming or preparing ramie fiber for the initial stage of manufacture after it has been removed from the stalk and semicleaned. An appropriation as provided in this bill would enable the Department, should it be thought important, to make tests of these degumming processes to ascertain the most practical methods of performing the operation.

All these years have passed and none of these decorticators or processes have started the "ramie industry" in this country, not even the great "Lanreth trial," which was so highly spoken of by all the so-called "experts," the Assistant Secretary, Mr. Willets, among them, saying that it was a success.

Mr. Willets was not so much out of the way as he seems in this letter either, as he knew the ignorance, prejudices, and the determination of so many to misunderstand and misrepresent it. He agreed with me after a thorough understanding on the subject, having spent hours with me to do so, and agreed with me that he would use the main part of the appropriation in the demonstration of the manufacturing, as nothing else could be successfully "experimented" until there was a market, and the market must be in the shape of a factory to successfully interest the capital to contract with the farmers to raise ramie in this country. The bill was gotten up at his desk and made in a way to suit the circumstances, and the prejudices of everybody, as near as may be, yet it left it all to his judgment, and his judgment was that the factory was of the first importance. The factory is still, after all these years, the first thing to promote and all the other ways have failed and always will. A ramie company, or "manufactory," just to weave yarns or knit yarns (imported, too) does not constitute a ramie factory at all, as some are pretending, even in the silk industry. To make either ramie or silk an "industry" in this country we want to have them raised here, in large quantities, too, to make it at all worth while. Every year, just about the time an effort is made to get assistance to start these industries in the interest of the country, several "mushroom companies" pretend to start up, and after Congress has adjourned that is the last of them. It is evidently done in the interest of the importers and weaving and knitting, as well as foreign manufacturers, to keep us from competing with them. The tariff I succeeded in getting in the "Dingley bill," 50 per cent on the finest yarns made in Europe, was printed in the bill 15 per cent, and those fine yarns are being imported and woven into fine goods, especially silk dress goods, and sold for silk, while the rest of the schedule stands 45 per cent for the next coarser, that little is wanted of; and so on down to 15 per cent for the coarsest, that these schemers did not care so much for, if at all. Of course they are making fortunes using the fine yarns and naturally do not want to lose their "great snap." They are the selfish ones who are fighting me.

At that time, September 20, 1890, Mr. Willets further says, to placate the prejudices then existing, though he had a thorough understanding with me, that the manufacturing should be the main thing to start and make possible the rest:

> As to manufacture, experiments by this Department, in my opinion, are less desirable in this stage than in other of the previous operations beginning with culture, as the ground is being covered by the manufacturers themselves without Government aid. It is hoped that they will solve this question by the time the previous ones are economically settled.

And they have all been solved and are still of no use until a manufactory has been started successfully to use the product in large quantities economically.

> If they should not do so, however, the Department should have the power and means in its discretion to give such aid to manufacture as may seem desirable. As an illustration of what the manufacturers are doing, I may state that an interesting series of ramie fabrics may be seen among the Department' collections, both from the United States and France; two samples of American manufacture are attached to this communication.

The yarns in the No. 1 sample, from pure ramie, were spun on ordinary silk machinery and woven in a woolen mill without special adaptation of machines.

They do not spin on silk machinery, and any yarns can be woven on woolen looms or silk looms either, and these samples were no success either.

It would seem, therefore, that no special aid for the manufacturer should be given before the more important, or, I should say, vital question of practical and economical decortication (either by machine or process) is satisfactorily settled. Some aver that the question of degumming is not important. It is all important, and the Department after due investigation of the subject, both in this country and in Europe, does not know of a machine or a process for economically decorticating ramie fiber that meets the requirements for such a machine or process. Were there such a machine in existence commercial ramie culture would be to-day an established thing in many countries now interested in experiments, and manufacturing would proceed.

There have been successful decorticators for many years; were then, but they did not realize it. Ramie already decorticated, and cleaned, too, lay rotting in many New England factories at that time; rotting because they could not properly or profitably ungum it and put it into goods, such as they could and did make, and they were looking for cheap stuff, not better or dearer material, and, of course, they dropped it altogether.

Now that the Secretary of Agriculture has written a letter to the committee of the House of Representatives stating that there is no trouble in raising ramie anywhere in the United States south of Washington, and that the main trouble is in manipulating it in the manufacturing, the country ought not to be kept from the great benefits this most important industry would afford. Now, after all the mistaken theories have been proved wrong, and we are importing much over $100,000,000 worth of high-priced goods (high-priced goods, not cheap goods that are made in this country) that can so largely be made out of this valuable fiber, of most superior and durable qualities, all produced in this country, by our own farmers, and manufactured into these same goods and sold to our people at two-thirds to one-half the price they now pay for the imported article, not half as durable as they would be made out of mostly ramie fiber, it does seem that the people ought to be allowed to assist through their Congress to do themselves the favor of helping themselves to the fullest benefits possible in the promotion of so important a matter. I can not believe that if Congress could be made to understand this fully now that they would any longer submit to having a few interested ones monopolize the full benefits they are securing to their selfish ends. They have not scrupled to take full advantage of the people's ignorance of the situation, but have selfishly misrepresented it and taken all they could get.

Textile manufacturing is " Greek " to most people, and many capitalists, even when financially interested, do not know much about it. The most they want to know is that it is making dividends for them. These schemers, knowing how easy it is to fool the people on this subject, become very bold in their nefarious misrepresentations, as was in the case of the fiber agent in the work he did in using $5,000 a year in fighting the promotion of the ramie industry in the United States, and with the people's money fighting me, writing to every capitalist that I got interested to go into it, " that ramie did not grow here, and that there was no machinery to decorticate it and prepare it for spinning," when the trouble was not in the decortication at all, as anyone can see if they will but stop to think at all, as ramie does grow here and is abundantly proven now, and all this time there has not been one able to market it because there is no factory able to use it, not even the imported cleaned (after decorticated) fiber imported from China. If that can not be successfully used, certainly none can be afforded to be raised here or decorticated either. No market can be successfully used that can not pay more than the article is worth at home. Ramie fiber is worth about one-half as much in China as it is here, and but a little more in Europe. They buy and use the Chinese hand-cleaned, which is not, as many suppose, ungummed at all, nor do the Chinese ungum ramie at all in the preparation for manufacture of it into cloth. They divide the fibers from the stalk, mostly green but some time soaked up again in water), into strings (threads) and weave them into goods by hand, which is too slow and tedious for us to attempt. We must have this "cleaned" fiber even thoroughly ungummed to manufacture it by machinery, and the first thing to do is to perfect a factory to do this and raise the money to make ramie goods to pay, in order to contract with the farmer to raise ramie for the market. Then, we want to give him all the assistance he needs, and, then, machines for decorticating can be perfected, if not already so. This is the only way that this most difficult and complicated and woefully misunderstood industrv can be made.

SAN FRANCISCO, CAL., *February 11, 1891.*

S. H. Slaught, Esq.

DEAR SIR: Referring to your personal inquiries in relation to my experience in the cultivation of the ramie plant in California, I have to say that some twenty odd years ago I received some ramie seed from China, and raised many plants, which I distributed pretty generally, that I might ascertain whether the soil and climate of this coast was suitable for its culture. I found no difficulty in raising vigorous plants from cuttings or divided roots; in fact, I found it the most hardy and thrifty of all plants, and grows to great perfection with ordinary soil and cultivation.

The main difficulty at that time was in separating the fiber from the bark and gum; but this difficulty has been overcome, I hear, which, if true, and it can be manipulated commercially, it would add an important industry of incalculable benefit to our people.

Yours, truly,

R. G. SNEATH.

MOBILE, ALA., *September 23, 1890.*

Col. S. H. SLAUGHT,
General Delivery, Washington, D. C.

DEAR SIR: I returned to Mobile on yesterday and found your favor of September 19, and have duly noted its contents. I am sorry that House bill 11901 did not get farther on its journey that it appears to have done. A favorable report from the committee will give you some hope for the future.

I am glad, however, that you have favorable assurance from the committeemen.

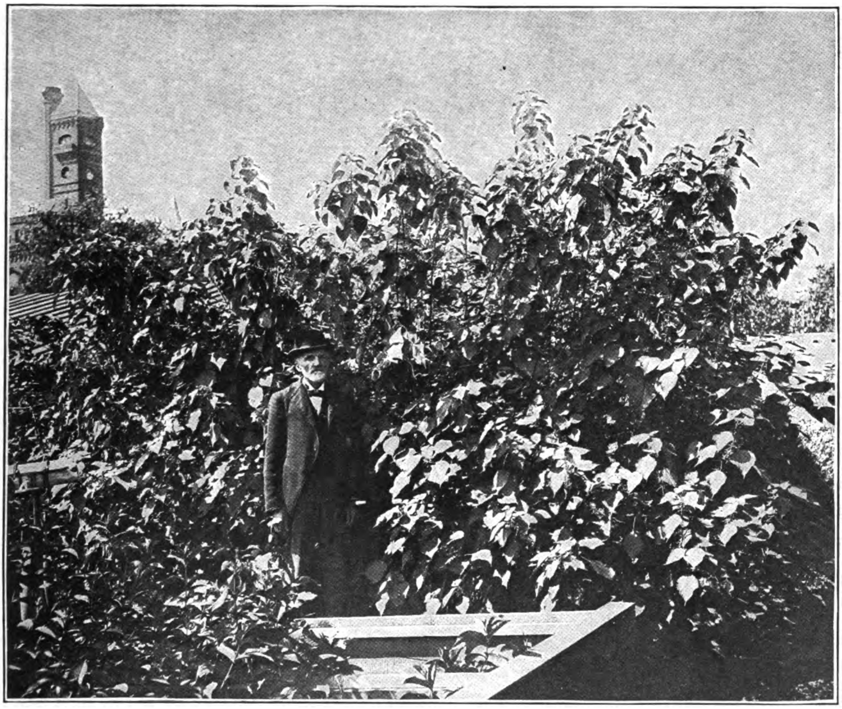
I do not quite understand your reference about "getting the immigration through." If we have had any discussion upon that subject it has passed out of mind, and I do not recall any correspondence which clears it up. I suppose, however, you refer to some effort to advertise Mobile as a winter tourist place. During my absence I saw, through the Mobile papers, that the commercial club has raised $500 for the Mobile and Ohio Railroad for the furtherance of an excursion over that line. I expect to leave the city again, shortly, and do not know that I will have time to do anything with the commercial club, as I am overwhelmed with business. I think the club purposes doing something toward advertising Mobile, as to the particulars of which I am not advised.

You may write me fully your ideas on the subject and I will proceed to see what I can do in the matter, although, as you are doubtless aware, I am very much pressed for time. As to getting "the other two" to assist in the ramie business, I personally have no objections to your doing so. Mr. Bester is absent from the city and I can not consult him on the subject, and if I have not time to give it attention myself I will try and place it in the hands of somebody who will do so. I was in Washington not long ago, got a glimpse of you, and tried to overtake you, but you disappeared out of sight before I could reach you.

Yours, truly, GAYLERD B. CLARK.

WASHINGTON, D. C., *January 27, 1907.*

S. H. Slaught, of California, has been demonstrating the ramie possibilities or problem here in Washington for the past twelve years; has grown ramie on the agricultural grounds for nearly all that time, two or three crops a year (season), from 5 to 7 feet high, and for the season's growth 10 to 12 feet high, and then it always blossomed in August and ripened seed the latter part of October or fore part of November, when the frosts came to check its growth and mature it so as to ripen up and clean the seeds. Mr. Slaught has had five Senate documents published by the Government of the United States, and has grown samples of ramie in pots at his office, and last summer he could show as nice a growth of Boehmiera (both Nevia and Tenacisima), 2 and 3 feet high, at his place, 310 Third street NW. (at the "Leta" opposite the Episcopal Church), as can be grown anywhere in the world. He has also grown ramie at all the first-class hotels and even at the Senate and House committee rooms, where he has had a complete exhibit of the same and all of its products in this country, as well as from all over the world. Mr. Slaught has abundant evidence that he has the best processes in the world for ungumming ramie fiber (and flax as well) preparatory for spinning, and the machinery produced for the complete manufacture of the same into goods and materials of all descriptions to which ramie is best adapted. When the manufacturing plant is perfected, and the capital is secured with which to contract with the farmer, there will be a market for the ramie fiber produced in the United States, and not until then. The



RAMIE GROWN IN WASHINGTON, D. C., BY S. H. SLAUGHT, ON THE AGRICULTURAL GROUNDS.

These plants were grown for eight years by him, and are now on exhibition by him at
street NW., and at the Maltby, Senate Annex.

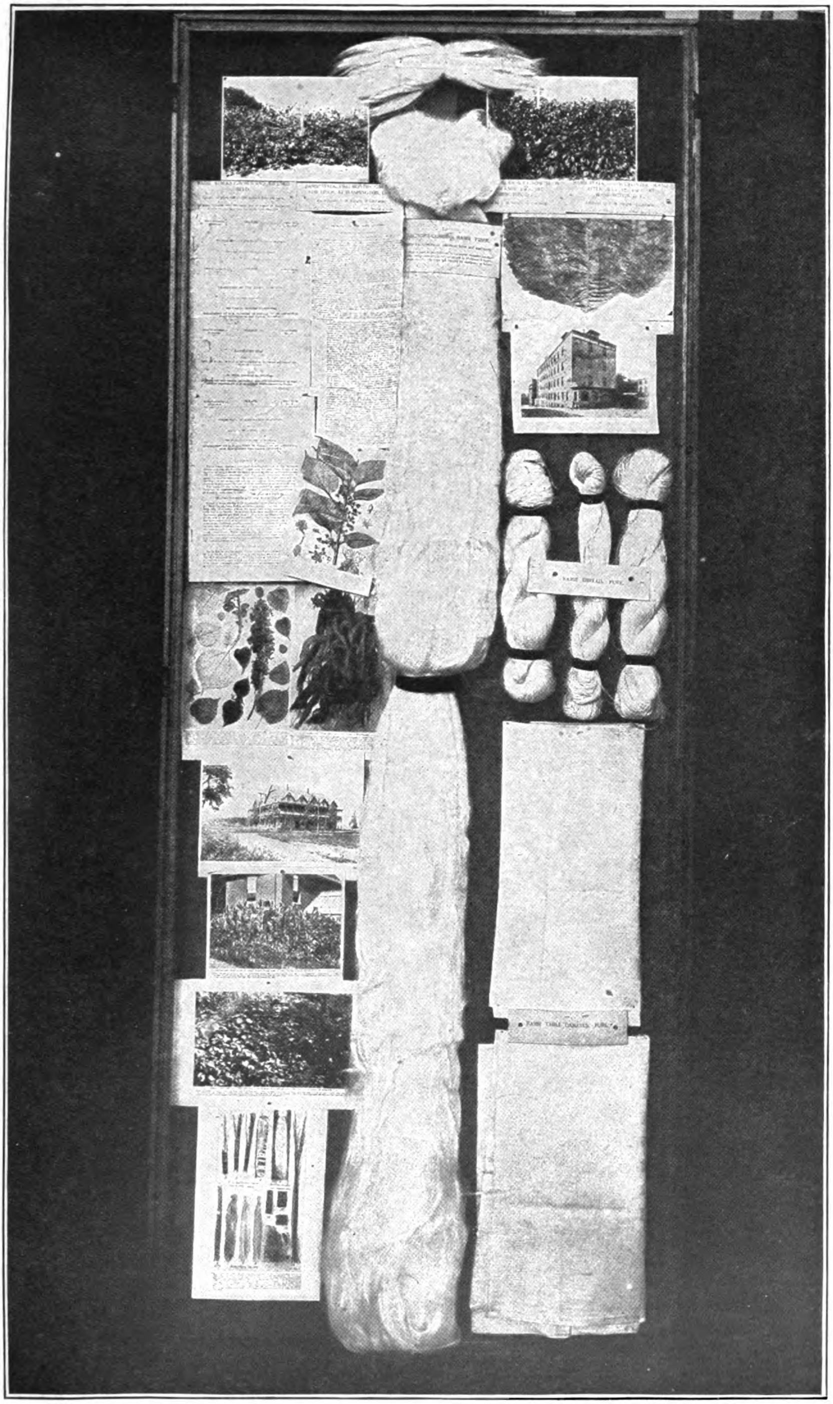


Exhibit of ramie products and promoting its manufacture in Washington, D. C., and all over the United States. This was in the Agricultural Museum, replacing the fake exhibit left by the deposed fiber agent and afterwards replaced by (as shown in pl. 197) a more complete one by S. H. Slaught. This and a complete exhibition of the products, all grown in Washington, D. C., are on exhibit at street NW., and at the Maltby, Senate Annex, by S. H. Slaught.

fiber of ramie is worth twice as much here as it is in oriental countries, and therefore can not be produced here for export for that reason, and that we must decorticate ramie by machinery from the green stalks in the field as soon as harvested. This machinery we now have, and have had for twenty years past at least, but the problem is that a decorticator does not clean ramie at all. Mr. Slaught agrees to clean this crude fiber for the farmer at his own expense, with his own processes in the cleaning factory, where the necessary machinery can be installed with which to handle it to advantage. He will pay the farmer 6 cents a pound for the fiber, net; that is, what it weighs when cleaned, and in the same condition of the oriental cleaned (by hand labor) product, for which we have to pay 6 cents a pound also, and would soon have to pay an increased price for if we could not produce it in this country, as soon as we began to draw on them for any large amount. Therefore it is to our interest to promote its production in this country as well as for the benefit of the farmer and the whole people. Mr. Slaught takes this crude ramie fiber from the farmer as decorticated, dried, and baled, and shipped to the factory and cleans it for them free.

The machinery, a set of at least six apparatuses, for decorticating costs about $3,000, and must be used by a company or individual, or the farmer on the farm if enough grown to pay him to do so (or in the neighborhood if not) for all within reach, or interested in that plant, to be done by the pound, which will cost about 1 cent or less. There is no market for that crude fiber to pay us to send it to. Some think that a decorticator must be made to clean ramie fiber, too, but that is not practicable and never will be.

Mr. Slaught has a process with which to clean ramie fiber, handled by machinery, of course, in the factory, after it has been decorticated, and prepare it all by machinery; then it is in the same condition that the cleaned ramie fiber is in that we import from China, Japan, or India, which we must import and perfect a factory with to make the yarns and goods in order to be in a condition to purchase the material from our farmers; and they can not embark in planting and producing ramie until that is done. Mr. Slaught says that he can not see how that can be done without organizing and procuring the capital. It is evidently necessary to satisfy capital first, and as so much has been done wrong and said against the industry in this country, even by the Agricultural Department and those interested in importing high-priced goods, as well as the foreign markets and manufacturers who have been using our own people in high places to work in their interests and against those they were employed to foster it. Or if capital can not be enlisted until this is corrected, then the Government should at least assist for the wrong their own agents have wrought. And now come these peculiar influences that mislead them and the public, and capitalists must be assured before investing largely to promote it properly in the interest of the public, and start a right way for a market for ramie fiber baled, to be shipped in quantities to the factory, which factory must be in our own country to make the goods we need and can make; not making the same goods made by the Chinese at all, nor competing with them directly, but with a sharp and perfected intriguing competition with Europe, and experimenters having years the start of us here.

The decorticating outfit consists of six separate machines or devices, viz, a leafer, a machine that goes ahead of the reaper and knocks off the leaves; a vehicle or wagon provided with a convenient rack, or rigging, and hoister, to haul the bundles to the decorticator, either on the farm or in the neighborhood, so that it may be reached by all the farmers in a short time; the leafer, the reaper and binder, and decorticator; the carrier, and drier, and the baler.

The cleaning does not have to be done on the farm, nor by the farmer, as Mr. Slaught agrees to do that without charge to the farmer. This has to be done in a factory by a process handled by machinery, and then it is like the Chinese hand cleaned that must be imported to start the factory and perfect the full demonstration to satisfy capital and procure enough capital to contract with the farmer to embark in the production, which he can not do safely until a market is secured. It costs at least $60 an acre to buy the roots and plant and perfect a stand of ramie to start with, at least; after which, by taking time, the farmer can produce his own roots and extend his plant indefinitely. Ramie has been produced in China—that we have vague records of—for thousands of years, and mummy cloths can now be seen in our National Museum, made in India four thousand years ago. Ramie has been an article of commerce from oriental countries for hundreds of years and known of publicly, though generally in a vague way, for four hundred years, at least, and is produced now in China, Japan, Korea, the Malays, and other semitropical countries now no more than usual, but largely exported as hemp in commercial trade. Ramie was little understood by us, and not known by many now, until 1855, when Doctor Schaeffer, of the United States Patent Office library, secured some plants from Java and had them planted in the Botanical Garden, where they grew continuously for forty-nine years, until Mr. Smith got mad at Mr. Slaught for saying that the park ought to be Americanized, so that the people could get at it and know what was growing there. Once planted and properly looked after it will produce for many years. The ramie crop ripens (matures for fiber) evenly and about every six weeks or two months, when grown thickly all over the ground on the right kind of soil and with proper care, and as soon as cut and crop removed it goes right on to produce another crop.

The ramie roots are tuberous and live in the ground dormant all winter and sprout up themselves in the spring without any cultivation, and before the middle of June or the forepart of July a crop is ready to be *cut* (not "pulled"). It is according to the lateness of the spring frosts, as ramie will not stand any frost when it first sprouts up, but if cut down by the frost in April it immediately sprouts up anew. Frost does not injure the roots in the ground, nor does a considerable freezing kill them out in the winter, when they lie dormant in the ground like asparagus, but unlike that it is better to preserve the roots at the surface of the ground as much as possible, as ramie wants as many stems as possible in order to make up numbers and thus fineness, while asparagus wants to come up from greater depth in order to be large and succulent, and therefore must not be so thick as ramie needs to be.

Ramie is a species of the nettle family, which produces a fiber directly in the bark that can be woven alone into a great variety of goods and materials, or into silk goods alone, or in combination with silkworm silk of all descriptions, or with worsted, wool, or woolen goods, camel's hair, alpaca, etc.; makes sailcloth, ropes, and lines, fish nets and fish lines of superior quality and strength and durability, genuine khaki cloth, and pongee-silk tents, awnings, and all army goods, as the Quartermaster-General says, "as good as anything they could be made out of." For underwear ramie can not be equaled, and for medical and surgery the best in the world. Ramie is fine for all kinds of clothing and underwear, suitings for summer wear, and with worsted one-third and two-thirds ramie, cassimeres, and blankets for the finest uses, as well as all army supplies of the best and most durable in the world; for pontoons, sailcloth, and hawsers ramie can be made one-third the heft of cotton and be much stronger and more durable at the same time and holds its shape and place better, not shrinking with moisture nor stretching when dry. For a hawser to tow the *Dewey*, one-third the size of one made of hemp or jute, ramie would last in the water many times longer, as ramie does not soak to pieces in the water, but is stronger in the water than dry out of the water. Hemp and jute are weaker in the water than out of it and soon soak to pieces if continually in the water. Ramie is a vegetable silk of a 6-inch staple; a flat, hollow, spiral ribbon as fine as silkworm silk and much stronger; colors like silkworm silk, and benefits silk goods into which it is combined—one-half or even two-thirds ramie.

The climate of Washington, D. C., is about the extreme limit north here and New Jersey, on the coast, and Sitka, Alaska, on the west coast, for ramie to be produced to any great advantage as far as preserving the roots in winter is concerned, but it can be grown anywhere in the north in the United States in the summer, but the trouble is that it does not pay us to plant it out every spring, as do the Chinese, in cold climates. Each crop of ramie will produce 1,000 pounds per acre per annum of dried crude fiber; therefore from two to three thousand pounds per acre per annum. The obstacle in the way of the manufacture of ramie into yarns and cloth was in the ungumming the Chinese-cleaned fiber. We have had good, if not extensive, machines for decorticating ramie, but no market for what they made, and have grown ramie for the past twenty years intelligently. Mr. Slaught proves that he had demonstrated this to the Agricultural Department in 1890, Mr. Rusk, and Assistant Willets, and finally says:

> Mr. Morton, just before he went out of office, recommended the appropriation of $50,000, and the passage of the bill, personally, to Mr. Hatch, chairman committee, though for that matter I had his promise from the time I first talked with him. Mr. Dabney never would look into it at all, and the $5,000 a year was used to fight me with and misrepresent the ramie status and possibilities, and when I compelled him to take a lecture, making him wince at the great wrong and the misrepresentations being made by the agent under him, he told me "the Republicans put him in—blame them." They used the $5,000 a year fighting me, until I got both Houses of Congress to leave out his appropriation, and let the agent out entirely. Then, after getting Mr. Wilson to send to Oriental countries and procure seeds and roots, which have been planted and grown here for six years and proven that all so produced were just the same as I had grown here, as well as that which had been growing in the garden and the Agricultural grounds for so many years, I procured written reports confirming the same from the botanist, since which Mr. Wilson, Secretary of Agriculture, has indorsed my growing ramie, and admits that the trouble has been in the manufacturing of the fiber, and that there is no trouble about the growing when there is a market for the fiber, and a way to utilize it to advantage.

Mr. Slaught has a bill pending in Congress to appropriate $110,000, with which the Secretary of Commerce and Labor is to assist in making a demonstration in the utilization of the fiber of ramie, and also silkworm silk in connection with it, and thus secure the capital to further the growth and manufacture of ramie and silk in the interest of the public, and make a great American industry that has been lagging on account of the misrepresentations made about it to all capitalists to whom Mr. Slaught got interested to take it up.

The agent in the Agricultural Department not only wrote letters to all such saying "that ramie did not grow here, and that there were no machines to decorticate ramie and prepare it for spinning," but published books with absolute intentional falsehoods about it and Mr. Slaught also, which books have been time after time agreed to be suppressed, but keep leaking out in some way or other. Mr. Slaught has full charge of all the ramie now growing on the agricultural grounds, as he has of his own planting for many years past, and he grew two large crops last year (1905), and two the year (1906), all fully 7 feet high, which he harvested and saved for paper stock, which the Agricultural Department is now working into paper stock and hope to make some fine paper therefrom. Ramie crops are all cut, not "pulled," and everyone writing about it ought to look it up intelligently and know what they are representing, especially as there is every chance for them to do if they want to further a good cause.

It seems that the American people do not want to believe anything or bother themselves to learn the right, impartially, unless they own it themselves. Now that Mr. Slaught has gained his point in converting the Agricultural Department, and the Secretary has sent his letter to the committee of Congress stating the facts in the case, and as the ramie problem is a commercial one, and the Secretary of Commerce and Labor has had an expert looking it up somewhat thoroughly the past summer, and written a letter to the committee of Congress stating the facts so far as it is possible for him to know in advance of the full and complete demonstration that Mr. Slaught proposes, and has promised to take hold of it and assist such demonstration thoroughly, there ought to be no delay. Mr. Slaught has abundant recommendations from the best experts in the country, and he has the processes, and the ability, both technically and in a business way, to make a great success in a short time. He has the most experienced assistance engaged that can be found in the United States; a superintendent that has been for twenty years a foreman in one of the largest and finest woolen mills in this country; two former English manufacturers as managers of long experience, and silk workers in miscellaneous broken silk work, all of whom have looked into his plans and productions, and are anxious to assist in the fullest development possible, as they see the great opportunity to procure permanent and profitable work and employment in their lines of work with him to which they are best adapted, though they have not the means to invest. They are expert manufacturers, and are not slow in seeing into the advantages to be gained, not only for themselves, but for everybody.

Mr. Slaught has a room at the Senate Annex, where he has a complete exhibition of the various processes passed to the finished goods. He also has a complete exhibit of the various crops grown here in

Washington, D. C., and both the fiber and the samples of the finished products from the seed up to and through all the various processes at (house) his office, street NW. He also has the best recommendations possible to be obtained, both for the ramie and for himself. Irving M. Scott, of San Francisco, Cal., who was a much traveled and educated man of great experience, having been prominent in all manufacturing interests, as well as agriculture, and president of the San Francisco, Cal., Mechanics Institute, held annually there for many years past, was a great friend of ramie and did all he could to further the industry in helping Mr. Slaught, whom he recommended highly, speaking of them at public meetings at home and writing the strongest recommendation possible for his work. Mr. Scott had prepared the petitions to Congress and to the Secretary of Agriculture at his office, and at his own expense, and indorsed them by letter to the Government to appropriate $500,000 to assist Mr. Slaught in making a demonstration in manufacturing goods from ramie and to put them on the market in order to have the farmers have a market to go to raising ramie for in the United States.

These petitions were freely signed and earnestly indorsed by the principal scientific and business men, bankers, manufacturers, and all the State officials, and heads of chambers of commerce, boards of trade, State board of agriculture, State World's Fair Commission, after three meetings running over three months' investigation, all of whom were old acquaintances of Mr. Slaught and neighbors in California for many years.

SAN FRANCISCO, CAL., *December 9, 1893.*

S. H. SLAUGHT, Esq., *New York City.*

DEAR SIR: The book for the subscription for a bonus for your ramie is all ready for you to use as soon as you wish. It is made and here in the office. I told the newspaper men (Call, I think) and he said he knew nothing about it. I have not got the time to go and see them personally. I am too busy to get out.

Yours, truly,
R. H. WARFIELD,
Lessee-Proprietor, Baldwin Hotel.

WASHINGTON, D. C., *January 7, 1893.*

The book cost Lucky Baldwin $20, the same as his hotel book. This book was for a subscription for a bonus for my ramie industry of $100,000 cash when I brought the machinery there to start a factory for the manufacture of ramie into goods for our home market.

S. H. SLAUGHT,
Office and Exhibition, Room 66, Maltby (Senate Annex).

CHAIRMAN OF THE JOINT COMMITTEE, LIBRARY OF CONGRESS:

In consideration of Mr. S. H. Slaught's ability, experience, Americanism, and on account of his promoting the ramie industry and the great benefits it would be to his work, and the country's interest in it, we would urgently recommend that he be appointed superintendent of the United States Botanical Garden, Washington, D. C., and that he be allowed to Americanize as well as modernize and secure the use of it to the best interest to the United States, and make it attractive and an ornament to the nation's capital.

With the appropriation usually made, he thinks a judicious use of it will make a practical and permanent exhibit there that will be of great honor to this country, and at the same time further the very important industry he is promoting in the people's interest.

Park Agnew, State chairman of Virginia; W. H. Barton, Department of Justice, United States Treasury; N. A. Cobaugh, United States Treasury Department; R. Tracewell, Comptroller of the United States Treasury. I specially recommend Comrade Slaught to this position. E. A. Kreidler, formerly of Company A, One hundred and forty-first New York Volunteer Infantry; R. G. Dyrenforth, commander in chief, Union Veterans' Union; W. H. Harnesberger, special agent Pension Bureau; George Campbell, State, War, and Navy building; E. W. Finch, assistant chief west division, Pension Bureau; J. E. Hart, assistant chief west division, Pension Bureau; J. S. Garison, chief west division, Pension Bureau, Washington, D. C.; Benj. F. Clayton, War Department, Washington, D. C.; H. W. Sanford, Land Office; Jesse Lawson, New Jersey.

Morris Lucks, 518 Ninth street NW.; G. C. Howser, M. D.; Wm. Fletcher, 602 F street NW., Washington, D. C.; Edward Schaeffer, M. D., 825 Fourteenth street (late coroner); W. H. Saunders, 1407 F street NW.; F. A. Tschiffely, jr.; Washington Ice Manufacturing Company, W. D. Hall, secretary and treasurer; George Hill, jr., Potomac Paper Mills, Georgetown, D. C.; W. H. Moses, Eleventh and F streets NW.; G. G. Boteler, 3213 M street NW.; G. W. Offett, 3211 M street NW.; J. W. Moyer, room 10, Sun Building; H. L. Erskine; Alice Lee Moque, 1807 Thirteenth street NW.; George H. Corey; E. E. Curry, 1205 Pennsylvania avenue; John T. Devine, The Shoreham; P. H. S. Cake, The Normandie; G. De Witt, Willard; O. G. Staples, Riggs House, National and Willard hotels, Washington; C. Becker, harness and trunks, 1328 F street NW.; H. C. Porter, Dallas, Tex.; Eiseman Bros., corner Seventh and E NW.; R. E. Sears, Iowa; L. M. Fitch, Hotel Wellington; Edward Baltzley, Glen Echo; Carrie E. Miller, Academy of Music; A. E. Galbrey, The

Shoreham; B. Robinson, corner F and Twelfth; Kimen Nicolaides, F street near Twelfth; W. B. Moses & Bros., Eleventh and F streets NW., Washington, D. C.; William Hurard; John D. Cobb, The Shoreham; Thomas W. Smith, lumber; Hecht & Co., Seventh street NW.; Israel & Co.; C. M. Jordon, M. D.; C. J. De Baum, cashier Arlington Hotel; E. E. Patton, Baltimore & Ohio Railroad; R. P. Emerson; J. B. McCarty; S. W. Woodward, of Woodward & Lothrop; Walter Burton, National; E. J. Sweet, W. P. Pierce, Georgia; P. F. Herwig, chairman, State of Louisiana; W. Berens & Sons, 622 E street and 927 Pennsylvania avenue NW.; C. C. Carlton Company, San Francisco, Cal.; L. S. Smith, real estate; W. R. Householder, messenger; W. P. Gladden, M. D., Xenia, Ohio; Sam Cross, Geo. H. Corey, M. G. Emery, Bank Building, Seventh street NW., Washington, D. C.; W. McNeir, Department of State; Gen. A. M. Legg, Topeka, Kans.; George T. Lurot; W. B. Shaw, Riggs House; A. Frost, Riggs House, cashier; George G. Burke, chief clerk, Riggs House; Chas. H. Lambert, Riggs House; E. S. Rockwell, John T. Talbott, Jacksonville, Fla.; Nathaniel Parque, New York; E. M. Willis; R. L. O'Brien; J. T. Bowman; John L. Fletcher; Samuel A. Campbell; J. E. Frost; C. U. Smith; Harry Bothman, clerk National Hotel; Frank E. Morel, representative Fanny Rice Company; E. M. Boyd, Gilroy, Cal.; Morton E. Crane, Boston; C. Schwartz, H. Walton, W. H. Wilson, all Normandie Hotel; Chas. T. Wood; Thomas L. Pole; C. S. Campbell, restaurant; H. G. Grayson, Wm. H. Woods, Hotel Vendome; E. E. Curry, 1205 Pennsylvania avenue; Thos. Hopkins, department commander, Grand Army of the Republic, Department of Potomac; A. L. Reed, Atlantic Coast and Seaboard Air Line Railroad office; W. M. Palmer, secretary, Wellington Hotel; D. H. Nichols, Mount Vernon Hotel; A. S. Pratt, Sun Building; Jessie M. Reeve, M. D., 902 F street NW.; W. M. Barton, M. D., 902 F street NW.; Julius Jansousky, 1226 F street; G. E. Abbot, 2811 Fourteenth street; A. S. Walford, 477 and 499 Pennsylvania avenue NW.; A. L. Minster, 495, 499, and 501 Pennsylvania avenue N. W.; James Jett, 300 Seventh street NW.; Emmons S. Smith, 705 Market space; Fernando Page, doorkeeper, House of Representatives; D. J. Foster, clerk House Committee on Pensions; Wood & Gates; W. Markwood, late lieutenant and post captain Veteran Reserves, captain U. S. Army; J. E. Hart, assistant chief western division Pension Bureau; Henry M. Lincoln, 1810 K NW.; Edward Meuch, 25 B street SW.; C. H. Lawrence, General Land Office; Lyman B. Kendell, Idaho; C. S. Stoddard, president Chamber of Commerce, New Orleans, La.; D. H. Smith, Arizona; John B. Fletcher, New York; W. L. Bowen, South Dakota; James Bell, Gainesville, Fla.; A. E. Redstone, California; Jas. R. Kernan, Hotel Gordon; P. S. Foster, 1327 F street; Wm. W. Danenhower, Hotel Fredonia; Owen, Waters & Co., Va. and N. Flats, SW.; Mrs. Catherine McEnerny, 119 Second street; Thomas W. Smith, lumber yard, First and C streets; Wm. C. Ameara, Third street; J. F. Jarvis, 135 Pennsylvania avenue NW.; R. P. Emerson, Hotel Vendome; S. F. Manning, 131 to 133 Pennsylvania avenue NW.; Harry E. Rupprecht, 131 to 133 Pennsylvania avenue; T. W. Moss, 223 P street NW.; Delos H. Smith, 26 B street NE.; A. T. Bache, 209 Tenth street SE.; Thos. H. Hail, 1117 F street; Geo. W. Whiting, 907 Twenty-second NW.; A. A. Wilson, 333 Seventh street NW.; Jas. R. Roche, 309 Maryland avenue SW.; Morgan McInerney, Sixth and E SW.; Catherine McInerney, 119 Second NW.; Patrick Phillips, 121 Nineteenth NW.; James Bryan and B. Bryan, 121 Pennsylvania avenue NW.; Mrs. C. B. Cutler, 222 Third NW.; John F. Cook, 1118 Sixteenth street NW.; Nora D. Cannan, 201 Pennsylvania avenue NW.; P. B. Anderson, 512 Tenth street NW.; Wm. R. Killiuon, 101 Pennsylvania avenue NW., for estate of W. H. Knox; Leander Van Riswick, 118 First street NW.; Wm. H. McGranin, 206 and 208 B NW.; Henry P. Gillus, 3100 P NW.; H. B. Leary; Otto Statter, 120 Maryland avenue SW.; Chas. E. Killian, 336 B street SW.; Mrs. Ames Crandle and Mrs. Hort Crandle, 610 H street NW.; Mary C. Roche, 309 Maryland avenue.

Mr. PERKINS presented the following

STATEMENT, BY S. H. SLAUGHT, IN BEHALF OF AN APPROPRIATION TO PROMOTE THE RAMIE INDUSTRY.

I.—WHAT IS WANTED.

Three ramie stations, one near Washington, one in the southern States, and one on the Pacific coast, and for each there is asked an appropriation of $110,000 the first year and $5,000 for each station annually for five years thereafter, with the power given the Secretary to make the time shorter after the second year if he finds them self-supporting. If the money can not be secured for three stations let sufficient be appropriated for one, so that the demonstration may be made.

The expenditures to be made by and under the supervision of the Secretary of Commerce and Labor through a special agent to be appointed and at a salary to be fixed by him.

II.—THE IMPORTANCE OF THE RAMIE INDUSTRY.

Ramie is from the bark of a perennial plant grown for ages for use in China, Japan, Java, India, and other oriental nations. It is stronger than silk, of a luster almost its equal, and when manufactured into cloth will wear better. It is a staple in those countries, and from them European nations get their supply, which is manufactured largely into goods sold to us as silk and worsted. For a long time public attention has been called to it as a desirable product to be raised and manufactured here. It is very prolific, producing in China, in latitudes equivalent to ours, three crops a year, one for every two months during the growing season, each crop producing at the rate of 1,000 pounds to the acre crude, dried fiber. When this industry shall have become well established here it will command a market which would support a large agricultural population and many manufacturing enterprises, thus making our industries more diversified.

III.—ITS FEASIBILITY.

Ramie can be grown readily in the United States from the warm soils of New Jersey to Florida, through all the Southern States west to the Pacific coast, and thence north to the State of Washington, producing not less than two crops a year for fiber, and has been known to produce from fifteen to twenty years with proper care without replanting. The product, therefore, is large, unquestioned, and at comparatively small cost to the farmer after the first well-rooted crop. The crop, when properly planted and established, covers the whole ground and grows with such vigor as to exclude weeds and does away after the first year with the necessity of its cultivation. It should be cut while green, soon after the stalks begin to brown at the roots, and should be grown with such an acreage either by individuals or in the community as to warrant the use of machinery for cutting, leafing, hauling, breaking, separating, drying, and baling, so as to keep the machinery at work continuously from the first cutting to the close of the season. This outfit for machinery will cost about $3,000, and would suffice for from 100 to 150 acres.

The raw Chinese ramie commands 6 cents a pound in our markets, and while it is cleaner than the crude fiber produced as above, there will be, when the industry shall have become established, such a demand as to command a like price. It is safe to say, on a conservative estimate, that, grown on an acreage of 100 acres, handled on the plan above suggested, the farmer can net not less than $50 and thence up to $100 per acre for an average of five years and more.

Everything, from the mature plant to the dry bale, is done by machinery, with small assistance from hand help, the stalks being crushed between rollers and broken on breaks, and the pieces of wood knocked out while fresh in the sap, leaving the crude bark incasing the fiber to be carried through the drier by machinery to the baler, The wood thus separated can be used for fuel for the power needed, leaving the ashes and refuse for fertilizers, if necessary.

This baled crude fiber goes to the manufacturers to be prepared for carding and spinning. In its present condition it has all of the outer bark, some fragments of wood, it may be, and is full of gum.

The purpose of the process following is to clean the fiber by separating the bark and the fragments of wood, if there are any, with a large portion of the gum, leaving the fiber with enough gum to hold it together. The process called cleaning the fiber is performed by machinery, with hand assistance as aforesaid, and can be performed in multiple quantities to any extent desired and to any amount.

Up to this point the process can be carried on by machinery which requires only ordinary skill in the manipulation, which will come from experience.

The final process for complete and full degumming requires the skill and judgment of the expert, who shall watch the operation and determine how far to go and when to stop to accomplish the separation of the fiber into individual cells (which in ramie are from 3 to 6 inches in length) and to carry off the gum which had held the fiber together. This ungumming is a much more difficult and by far the most particular and important operation of all, as we now come down to the delicate cell, 3 to 6 inches in length, as fine silk, which cells must be entirely freed from gum, and completely separated from each other without unnecessary tangling, injury, or loss of gloss or strength. They must be as free, clean, and separate from each other as wool, camel's hair, or alpaca, in order to be manufactured into goods entirely by machinery.

All this work of final preparation must be handled and manipulated by machinery under the eye of experts, in connection with and by a process which must soften, absorb, and carry away the gum without harsh manipulation or means, leaving the final product in quality as above described, and which process has been thoroughly tested and successfully used.

IV.—WHY THE DEPARTMENT SHOULD, AND HOW IT CAN, ASSIST THE DEVELOPMENT.

The ultimate object is to assist the farmer to a new product and make a market for the same. The foregoing shows the great benefit to all classes, as well as agriculture. Hence the reason the disbursement should be placed in the hands of the Secretary of Commerce and Labor.

A company has been organized which proposes to raise a capital of $1,000,000. There will be no difficulty in doing this with the assurance of the Government aid of $110,000 the first year.

The company will secure the site, build all the buildings, and purchase all the machinery, the estimate for which is as follows:

The building and site	$75,000
The machinery on and near the farm (each outfit)	3,000
Arranging with farmers, furnishing roots, giving instructions, and assisting them in harvesting, leafing, cutting, and so on, to the crude fiber	25,000
Machinery and fixtures for the cleaning, ungumming, and preparing the crude fiber for manufacture	40,000
Cost of help, power, and incidental expenses in preparing this crude fiber and demonstrating the practical operations	100,000
Total	243,000

This is a total cost for carrying to demonstration the first year of a full product for one plant or station of, say, 200 acres—say, 400,000 pounds of fiber prepared for the manufacture:

For site of machinery, which is permanent, as above	$118,000
For labor and power and expenses, as aforesaid	125,000
	243,000

It is thought that the Government should contribute $110,000 of this the first year, as it will be all outgo, at an expense of about 25 cents a pound for fiber, which after that will cost only 6 cents. With this first expense so provided for, the company can make contracts with the farmer, with assurance for five years, if necesary, at 6 cents a pound.

The company proposes to take this prepared fiber so furnished by agriculture and to manufacture it into goods for the market.

It has already spent the first year, in buildings and machinery, over and above the contribution of the Government	$143,000
It expects to spend for manufacturing machinery and buildings for the manufacture the amount of balance of its capital	157,000
	300,000
Government aid	110,000
	410,000

The industry once established will, it is expected, take care of itself; but to assist, if necessary, and to keep the Department in touch with the agricultural feature of the enterprise, $5,000 a year is asked for five years, to be devoted primarily to instructing and informing the farmers in the best methods of raising and harvesting and preparing the crude fiber. It will be seen that the plan is a comprehensive one which includes a market for the fiber furnished by the farmer, this market being the manufacturing enterprise which contracts with the farmer and promotes the industry in two directions—

first with the farmers, and second, with the manufacturers. The farmer can not afford to plant and raise ramie until he can contract to sell this product for several years, and may not then, unless furnished cheaper and in part, at least, the roots, with full instructions and particulars; and no one can afford to contract for purchase of the crude fiber without a mill to utilize the product to advantage.

The capitalist will not venture till fully posted and assured of a permanent abundance of raw material and a promise of ultimate profit. He does not want to use his money to promote and demonstrate a new industry for the whole country and bear all the natural losses and risks incident thereto for others. The principal difficulty in the starting of the enterprise is at the agricultural market end of it, and this application for aid is for the promotion of that feature of it, and is of so great importance to the farmer that this aid is asked with confidence that it will be granted after an intelligent consideration of the whole subject.

S. H. SLAUGHT.

FEBRUARY 8, 1895.

DEAR SIR: Accompanying this please find a statement relating to the ramie industry, which statement has been made in pursuance of your conversation with Mr. Willits a few days ago. Will you please examine it at once, and Mr. Willits will be over with me to-morrow to confer with you about it.

Inclosed please find a letter addressed to you, dated January 15, 1895, signed by Senators White and Perkins, of California, and Senator Mitchell, of Oregon, and Representatives M. B. Bowers, E. F. Loud, of California; J. A. Pickler, of South Dakota; E. E. Meredith, of Virginia, and William R. Ellis, of Oregon. You will see, however, that their letter includes silk and flax, as well as ramie. Also find a letter signed by James G. Maguire, Member of Congress, of California; also a letter addressed to you, signed by Senators George and Pasco.

Yours, truly,

S. H. SLAUGHT,
EDWIN WILLETS,
Of Attorney.

Hon. J. STERLING MORTON,
Secretary of Agriculture.

UNITED STATES SENATE,
Washington, D. C., January 15, 1895.

DEAR SIR: We, the undersigned Members and Senators, believing that the great farming and laboring interests of this country need encouragement and assistance in promoting diversified interests and paying industries, especially manufacturing ramie, silk, and flax, to employ at living wages the laboring people; and as Mr. S. H. Slaught, of San Francisco, Cal., claims that the ramie, silk, and flax industries promoted in a proper direction would do all this to pay, and at the same time save hundreds of millions of dollars now sent abroad for goods, materials, and articles, and much more with them that can all be made at home out of ramie, silk, and flax, we will join you in recommending to Congress that they and you give him a chance to try and see what can be done, and as he recommends in the bill (S. 1153) now in the Senate.

We respectfully request that you give him suitable opportunity to present to your consideration and recommendation his proposition, and if you can see that it is likely to do anything like what he claims for it, or even likely to succeed in a good cause, you can report to us, and understand it yourself.

Please look it all up, and at all his representations in relation to it for us and yourself, and he has a public exhibition at the Normandie Hotel it would be well to have him explain that to you.

Stephen M. White, U. S. S., of California.
Geo. C. Perkins, U. S. S., of California.
John H. Mitchell, U. S. S., of Oregon.
M. W. Bowers, M. C., of California.
J. A. Pickler, M. C., of South Dakota.
E. F. Loud, M. C., of California.
E. E. Meredith, M. C., of Virginia.
William R. Ellis, M. C., of Oregon.

Hon. J. Sterling Morton,
Secretary of Agriculture, United States.

House of Representatives, United States,
Washington, January 16, 1895.

Dear Sir: Mr. S. H. Slaught, of California, has given a great deal of attention for many years to the cultivation and manufacture of silk, ramie, and flax.

He has a bill pending before Congress for the encouragement of ramie cultivation and manufacture for which he desires to enlist your support.

Believing him to be both reliable and well informed on the subject, I bespeak for him a suitable opportunity to present his views to you.

Very truly, yours,

James G. Maguire, M. C.

Hon. J. Sterling Morton,
Secretary of Agriculture.

State Grange of Virginia, Patrons of Husbandry,
Washington, D. C., February 15, 1895.

The following is an extract from the proceedings of the twenty-second annual meeting of the Virginia State Grange, Patrons of Husbandry:

Brother William King submitted the following, which was adopted:

"*Resolved*, That the State Grange, in twenty-second annual session, have heard the statements of Mr. S. H. Slaught, of California, in regard to ramie with interest, and are pleased to hail the introduction of this plant as one means of diversifying our agriculture and retaining at home many millions of dollars now sent abroad, and we urge upon the House Committee on Agriculture the necessity and importance of considering favorably the proposition to make an appropriation to advance the development of this interest as one means of diversifying agriculture, and request the Members of the House and Senate to assist in the passage of such bills as may be reported by the committee, and that the same committee spare no pains to forward this important measure.

RAMIE, ITS CULTURE AND MANUFACTURE IN THE UNITED STATES OF AMERICA; ALSO A LITTLE OF ITS HISTORY IN THE WORLD.

[By S. H. Slaught.]

WASHINGTON, *D. C., September, 1894.*

Ramie is of the nettle family, but stingless or thornless. It is known in different places as "Ramie," "Rea," "Rhea," "China grass," "Bœhmeria," in English (or as we call it), and "Mao," species of "Orje," "Karao," in Japan. In Mexico, "Ramie" (*Urtica Utilis*), "Ortigas Urticas" family (*Ortiga Chinchcastle*). In China, "Tchou-nia."

The different varieties we have tried and found the best for us here are *Bœhmeria nevia*, *B. tenacisima*, *B. sanguinea*, *B. pura*, and one other not yet decided as to name here, found in a Pacific island. We designate the two principal varieties grown successfully here as the white kind and the green as the simplest way of representing them; one with a very white leaf on the underside and the other with a light green. The green is the coarsest grower here. If grown in hills or too much shade and very rich ground, it gets very large, coarse, and branchy before it will ripen up properly, and makes coarse, strong fiber, in small proportion.

Ramie perfects best from the second year on, and when grown in a good sandy loam and very thickly all over the ground in the open field, and is most sure to perfect three to four crops a season, about 4 to 6 feet high each, and about 5 tons of green stalks to the acre (without the leaves, which are about two-fifths of the whole weight), and ought to make 1,000 pounds of dried crude fiber each crop, worth, net, at least 6 cents a pound anywhere in the Gulf and Pacific States. It grows finely here in Washington, and on warm dry soils that will preserve it from freezing out in the winter as far north as New Jersey—at least two crops. It grew here in Washington from the time of the heavy frost in April (when it was 4 inches high, and froze down below the surface of the ground) 7 feet high in about two months, when, if the ground had not been so rich and so much shaded and watered, it ought to have been ripened up in condition to cut; but on that account it kept green, and grew to 9 or 10 feet high in about three months—very coarse and branchy, having been in hills. If a crop thus grows too long and coarse, or is not cut green before too much ripening, it very much tasks the roots and ground and prevents the next crop from being a lively and good one. That is the reason that prominent ("positioned") public "experimenters" made such a blunder in making a report (and another one in reporting it) that "only two crops could be grown in his place—one large one and one small one," when, if they had understood nature or nursery business, or agriculture, or been honest, they would not have made such a misstatement or grown it in that way. It is most probable that three good crops can be grown there, if planted, grown, and cut right, and otherwise properly cared for.

Ramie is a perennial, and has been grown for forty years in Washington, D. C., by the Government, and for twenty years continuously in two places without deterioration, and in other places for fifteen years—in California and Southern States. Ramie must be cut green in the proper stage of ripening, soon after it commences to brown at the bottom of the stalk, and is the best when it does so at about 5 or 6 feet in height, and the second and third crops are best.

The fibers of the ramie plant are not long, like jute, hemp, or flax, and will not "ret" in water, like them, in the usual way without spoiling the fiber. That is on account of ramie having a sticky, tenacious, hard gum, which incases the fibers in the bark so firmly and is so difficult to remove.

The fibers of ramie are flat, hollow ribbons of exceeding fineness and strength, beautiful and glossy when not injured, and they are the veins or feeders that make it such an enormous grower, producing 5 or more tons to the acre each cutting, and can not be hackled like flax, hemp, or jute, without great waste and tangling; so, ramie must be broken like flax, but green, as fast as cut, and does not need to be hackled at all. So, as compared with raising flax, ramie needs planting but once for many, many years, at least; and makes several crops a year; is broken much easier, and needs no hackling for market; makes more fiber to the acre to each cutting, and is probably worth more, two or three times a year, than flax, with much less work in preparing it.

Ramie fibers run from the wood to the bark between the leaves, and to them in their line, so they are but two 4 and 6 inches, or three 6 to 9 inches long, as the leaves vary in distance apart in line on the stalks, and varying in variations in growth. So much the larger portion is short, as much the larger surface is between the shorter spaces, and a smaller fraction passing one leaf to a second, and still a much smaller portion passing two leaves to a third. This you can prove by smashing a green stalk, cut in proper condition, on the floor by treading upon it with your feet, then breaking the wood every inch or less, and peeling, shaking, or picking the wood out; and by looking closely and carefully you will see that they run out one way and in the other, and also follow out at the leaves somewhat. This operation is decortication, and is on the same principle working in the machines (decorticators) now in use, or ready and waiting to be put in use, to commence this industry on a successful basis. Of course we may improve our decorticators in the work. We will not perfect them other ways.

Now, if we had a market, started by someone with the capital and the pluck to use it in building a factory to use it in, in the interest of the people, designed to make a class of goods in sufficient quantity that could be sold on our markets in place of what we are now importing, $100,000,000 worth annually, it would soon be not only one of but the greatest industry waiting for us to start in this country, and equal to any we have now. The farmers can not afford to plant and raise ramie until they can contract to sell it for several years, and many not then, unless furnished the roots and full particulars. No one can afford to contract to purchase ramie fiber without a mill to use it in to good advantage, and capitalists will not venture until fully posted and assured, and then do not want to use their money to promote and demonstrate a new industry for the whole country and bear all the natural losses consequent for others. We want only to compete with imported high-grade goods, and not at all with our present home manufacture of cotton and hemp or other cheap materials. It is plainly and forcibly one of the most important things for the Government to assist the people in, who are willing to put their shoulder to the wheel in demonstrating an industry so beneficial to everybody, and especially as it, like sugar, takes a large outlay to start it at all, and all connected with it is yet, to some extent, at least to the public, and capitalists especially, an experiment to be demonstrated.

The Chinese plant ramie in gardens or patches, cut it stalk by stalk, strip the leaves, scrape the outside pellicle off by hand with a knife or scraper, then peel off the bark or break out the wood, then boil, wash, and rub out the mucilaginous and gummy and woody matter by repeated boiling and rubbing, and dry on the roofs of their houses to whiten it, until divested of three-fourths of the gum, when it is ready for market, or for them to divide, while softened with moisture, into small threads retaining enough gum to hold the ultimate cells or fibers together, and thus avoid carding and spinning. These they tie or stick together, end to end, and weave into goods (pongee, silk, etc.), and boil out, color, or bleach in the piece. We can not compete with them in all this hand work, as they do so little and work cheaply, producing about 1 to 2 pounds a day, or 5 to 10 cents' worth. We must invent or use ways and machinery of our own, and only follow what they do so far as nature compels us to, or we would be led far astray, as we have been by the wild amateurs we have waited for to develop it. It is better that we do not see or know what they do after growing and cutting unless we have and use judgment of our own, and one must know the whole scope or range of work, from the planting and growing to preparing the fiber for manufacturing, or market, or goods, and then how to prepare and use it, as well as what to put it into and what will need large quantities of the fiber, and sell to the best advantage, to keep the industry upon a plain (elevation or high level) to make and keep the money at home we are now sending abroad, and to make the most out of it for our farms, and in place of overproduction of cotton and wheat. This is why the Government should assist in promoting it.

We must grow ramie thick all over the ground, and thus straight and fine; leaf it by machinery before cutting, then cut with reaper and binder, run it through a decorticator green as soon as cut, before the bark sets to the wood, just as you would make a willow whistle while the bark is juicy and will peel. The bark, or ribbons of ramie, must be run from the decorticator on an endless carrier through a dryer, to a baler, as we can not afford to handle it by hand to take it from the machine to dry it. This makes the finished decorticated product from the farm.

It must be cleaned in the mill by a process and handled by machinery. All this, so far, is easily enough done. Anybody can clean ramie long, and up to this point we have used several machines and a process since it was decorticated, and still the difficult part has not commenced yet; so you must not stumble at the idea that a decorticator ("machine") ever will do it all. The trouble is not in a "decorticator;" it is in cleaning and, much more, in ungumming after decorticated and cleaned. The ungumming, which is the delicate and particular part to accomplish, must be so thoroughly and nicely done that every fiber is separated, as much so as wool, camel's hair, or alpaca, and without injuring or tangling and so as not to need bleaching, as well as economically.

Those long switch samples are not ungummed. They are only flakes—Chinese cleaned ramie, bleached out with chemicals, sulphuric acid, or similar substances—and are worthless, except for poor shoddy, when cut up into inch or so pieces and run through a regular shoddy machine, the same as linen rags, and for this purpose the ramie must be weakened, almost ruined in strength with bleach, before it can be torn up in this way, on account of its natural great strength, it being three times as strong as Indian hemp.

Ramie has not been manufactured into cloths, commercial goods, or fabrics in the United States from our own limited production to any extent whatever worth mentioning, and only in a very crude way on common machinery into (samples only of) coarse goods, except some little has been done on silk and worsted machinery from yarns, or fiber, hand cleaned, and mostly prepared or made into thread, and imported, and in no way to promote a market for our own production, machine decorticated or otherwise, notwithstanding any representations to the contrary.

The machinery is not in use here, in the proper line of goods at least, though now being built here—the finest in the world—adapted to the proper manufacture of ramie goods, such as will promote the industry properly on a scale to best interest capital for the people's and this country's great interest, by promoting its growth and preparation by our farmers, and the employment of our people in its manipulation and final production of cloths, fabrics, and materials of high order and volume enough to compete with silk, worsted, camel's hair. alpaca, etc., of high grade, now imported, and with other parts of the world in such manufacture of ramie or mixed ramie goods, thus dividing the work, profits, and savings among all classes. On the Pacific coast we have no first-class machinery adapted to it at all, not even for long wool. A Mr. Kay, in Oregon, who has built up three woolen mills and made his own money out of the business there to do it with, has the finest mill machinery on the coast, in Oregon. He went to England and bought it for one mill, of the best that could be had for his work in short wool; but even he has not a piece of machinery adapted to first-class ramie manufacturing in the preparation of the yarn, while he may have some that would do to a limited extent for weaving some classes of goods.

In California, especially in San Francisco and Sacramento, the manufacturing business has been ruined, in the eye of the public, by speculation in stocks and by capital trying to control all and everything of that kind by one company or monopoly.

Our laws are not made in the interest of the people, except in the hands of honest men, but rather in that of the speculators, or, in fact, the lucky ones who have the capital to gain control of the majority of the stock and freeze out the "small fish," and until the "winter fair" was made a success they did not believe that anyone, no matter how competent or how good a proposition he might have, could succeed in interesting the people to promote a manufacturing enterprise. Now that the "ice is broken" and they have found out it is possible to have a reaction, they have concluded that they will help to start this ramie industry, and have commenced to subscribe to make up a bonus, and have raised $200,000 in Sacramento, of which they have said that $50,000 should go toward promoting a ramie manufacture, and when secured capitalists will subscribe for some stock.

In San Francisco the proposition is to raise $70,000 to $100,000 in that way to secure a ramie factory. In southern California all of the five counties each want a factory, and individuals have offered land and property mostly. In Chicago one company offer $50,000 worth of property as an out-and-out bonus. In North Carolina some land and a good water power can be had. In New Jersey the same. In Florida, in two or more places, considerable land. In Mobile, Ala., subscription to stock, $25,000 or more, and in New Orleans as much, with bonuses and other assistance, when the Government will assist in making a demonstration of manufacturing and start a sure market, so as to insure the farmer in the expenses and profits for planting a few acres. When once started in this way the industry would take care of itself. Anyone assisted to start its manufacturing in this way could well afford to furnish the farmers roots cheaply and partially on time to start, and contract to pay for the fiber grown from them 2 cents a pound more net that it can be purchased for in China. This I would do, because if we depend on a foreign supply we can not contract ahead three months, and the price would soon go up and continue to rise. But if our farmers can be helped to start in to raising it, no country can compete with them, with our advantages of skill, tact, and machinery, and the supply would increase and the price decrease. So I believe in looking ahead a. little, and doing what will pay best in the end, as well as what will build up a home industry, and furnish work and better markets for our own people and their products.

If our farmers could raise one-third less cotton and wheat they would get a better price for what they did raise, and then have a chance to raise more of what is now imported, and for which we are sending vast sums of money abroad. It would alleviate the present depression and give every man, woman, and child employment, and there is nothing in sight that would so naturally and completely do this so promptly and effectually as the promotion of the ramie industry. It would also be much better if the people generally would invest in the industry and not allow the selfish capitalist to monopolize it.all, as they want to import it and make all they can out of it, with high prices of the goods, while if only American-grown ramie is used, even if we commence by paying more for it to stimulate its production, still the price of goods can be lessened to the people at the start, and when once under way the ramie can be raised cheaper, and the cost of materials and goods, in consequence, will continually grow less, while on the other hand, in the hands of the men that want to see an eagle coming to them before the dollars that someone else has invested for them disappears, would have to pay an increased price for material imported and keep up the price of the goods to the people; and besides, they want to employ foreign cheap labor, to which I am opposed in all cases.

Now, if the people would take hold of this themselves, with a little Government aid to start it, and capitalists will not assist (except entirely for their own interests), this country would be relieved of much depression soon. It is time that we leave off this everlasting looking to England and monopolists for capital. The people should be receiving the profits as well as having employment. This they are commencing to do in some of the Southern States, and will soon result in their great advancement. All our people should assist in it, and will greatly benefit by it.

S. H. Slaught,
Address Post-Office, Washington, D. C.

At present at street NW.

Washington, *D. C., January 4, 1895.*

To the committee in the interest of manufacturing, of the Washington Board of Trade.

Gentlemen: As per request, I present these suggestions in relation to the industry of the ramie production and manufacture in this section:

First, then, if suitable manufacturing and consequent production of raw material could be established in or near Washington, D. C., it would be the "capsheaf" of prosperity and make Washington the great center for trade, as it should be, and the permanent home of wealth and luxury.

Here you have every advantage and facility—on the Potomac, with its 20 or 30 feet in depth of water and its broad expanse and fertile surrounding country, as well as the vast territory so accessible by both vessel and rail; the proximity of manufacturing cities, supplying all the necessary material, machinery, and every essential for such factories, by both land and water, as well as the large number of markets, not to be surpassed in the world, at your very door, to your right and left, all around you; also a vast population needing employment, all anxious for prosperity, from which to draw your laborers—of the best in the world, with proper education and interest.

Here you have the center of government, supplying all scientific research and invention—libraries, information, recreation, and learning. In fact you have here everything that could be desired. It is only too good, too easy.

The only obstacle in the way, it seems to me, is that so little effort and risk are needed, that all tends to lethargy and neglect to work for that which will not come of itself. I find yet too much [foolish, ignorant] sentiment against the development of industries in your midst. This may soon react in the form of energy, for "opposition is the life of business."

The ramie industry presents a suitable opportunity with which to make a start. Ramie will grow luxuriantly all through the southern section of the country, from the warm, dry soils of New Jersey to the Gulf of Mexico; and through the entire Pacific coast of the United States, and, being a perennial, needs but one planting for many years, at least. Again, its roots grow deep, so that it will flourish almost as well, or better, on even the worn-out tobacco lands of Maryland and Virginia as on the poorer sandy lands of the Southern States.

Ramie will produce several crops a year, commencing to yield an income in two months from the beginning of the permanent growing season, and every day from that time. With 120 acres to handle—2 acres a day for sixty days—it will pay for one man, or a company, or a neighborhood to join together for the machinery necessary to break the crop for the market, which machinery will cost about $3,000. So a little cooperation is needed for the purpose of getting a start, after which the industry will take care of itself when there are factories to use the crop, and thus create a good, permanent, sure market, yielding the producer at least $50 to $100 per acre every two or three months. This industry alone would make money plenty in any country with a market commensurate with the output.

The market must be promoted with the production, which can not be had without capital invested in a plant to cost at least $200,000, or from that amount up to $1,000,000. This country would consume the products of many such plants (factories) in place of goods now imported at an expense of $100,000,000 a year—high-priced goods alone—that can be manufactured here from the ramie plant.

The promotion of the ramie industry would also promote the worm silk industry, as it would supply the food leaves fresh every month. The wool industry would likewise be benefited, as the people of the United States would be enabled to use all the domestic "clip" to better advantage with ramie than with any other material, not excepting the best imported wools. Further, the cotton and wheat industries would be helped, as so much less would be raised that the price of those staples would be advanced.

Now, in New Alexandria I am offered a site for a factory, a site for a college in which to educate young Americans, and to instruct them as hands in all the fine variety of trades it will afford; 10 acres of ground for a nursery from which to supply the roots of ramie for planting and other things necessary; also the use of from 100 to 200 acres of land for the purpose of starting a sample field of ramie until such time as the land shall be needed for lots, as well as $5,000 cash as a bonus on the building when it shall be competed.

The building will cost from $15,000 to $20,000; the power, running gear, and fixtures from $5,000 to $10,000 more; the machinery about $28,000; the stock necessary to run the factory at least $15,000; cash to carry on the work at least $5,000; to plant 200 acres, $12,000; machinery to handle stock, $3,000; nursery and supplying roots, $110,000 cash, besides what is already expended; machinery and expenses to prepare fiber for spinning, $20,000; in all, $210,000.

We want a bonus from the Government of $100,000—$50,000 now and $5,000 a year. We want a bonus from the city of as much as $50,000. We want to sell $65,000 worth of stock at 80 per cent net—that is, for $50,000 cash; after which none need be sold for less than par.

We want 100 students in the beginning, who will put in $500 each, in stock, and pay $100 a year of this stock, or $100 a year in cash, as tuition, to complete their education, while learning trades and doing the work of the mill, receiving their living, rooms, some clothing, and education in full payment. We want to increase this number of students and apprentices to 500 as soon as possible, at $500 each.

The money received from the students will be used in building the temporary college and accessories for immediate use, and in supporting it until the factory pays well enough to support it. We do not want to rent any buildings, or to run into debt in any way, or to be subject to any obligations except our agreement. Now, will you encourage us by your assistance in a substantial way, as well as by your good will and influence?

Will you talk, work, and pay for the establishment here of this industry a small fraction of the amount of benefit which you or your city will derive from it?

This industry here ought to turn out from the start, if furnished promptly and fully, a profit, based on the present price of goods, all of 200 per cent on the cost, which would be an immense saving, of which we would expect to give one-half, net, or more, to the country in the form of a reduction in the price of goods from that now paid for importations of the same goods—the first year, at least once, if not several times over. To carry out this course would involve at least $210,000 cash, besides all the other interests and money now spent; just the amount of the first cost, all our own investments and donations thrown in, using the remainder of the profits to improve and extend the plant and output; after which the work can undoubtedly be carried on at a reduction to the people of one-half the price of the goods, and probably much less, and profitably, too.

Is this worth any effort? The money is all going abroad now; foreigners are making it. Will you not let us make it until this industry is established and permanent factories are built? Can you bear to see us make enough out of it to make it a success? Do you want the whole of this great industry to go abroad?

This work can go on increasing on the banks of the Potomac until several factories are thoroughly and permanently established, and thousands of people employed in the mills, as well as on the lands, and, indeed, all over the country, in this work, as well as in supplying newly made markets and promoting general prosperity.

Yours, respectfully, S. H. SLAUGHT, *Washington, D. C.*

THE CULTURE AND MANUFACTURE OF RAMIE.

[From the Inventive Age.]

The question of the cultivation of ramie in this country is not a new one, but the increased demand for fabrics of all kinds made from its fiber adds additional interest to the matter at this time. In all the stores of the land the manufactured products of ramie are placed along side of the products of linen, wool, and silk—sold for silkworm silk, and only an expert can detect the difference—while jute and hemp are sold for ramie. The fiber produced from the ramie plant is the strongest in the world, being three times stronger even than Russian hemp. It is about as fine as silk, and will make either the strongest cordage and coarse goods or the finest and most beautiful cloths, hangings, table linen, tapestries, clothing, etc. It readily mixes with wool or silk, and can be woven with all other fibers. It takes the most beautiful dyes, and is more lasting and durable than the strongest linens or finest silks.

But three things are necessary to the development of the ramie industry in this country, and the wonderful possibilities and prospective benefits to the agricultural interests to accrue therefrom must soon overcome all obstacles; governmental encouragement, investment of capital in manufacturing plants, and the application of inventive genius in the perfection of machinery (in the work, not before it) for the treatment of the fiber are the important requisites of success. If this industry can be developed the manufacture of this fiber in the United States will be a source of wealth to the farmers of the country greater than any one of their present products.

Mr. S. H. Slaught, of San Francisco, who is now in Washington endeavoring to interest Congress and capital in the subject, is one of the most enthusiastic promoters of the enterprise in this country, and has devoted several years to the study of the value of ramie, the various uses to which it can be put, and also its cultivation, preparation, and manufacture into goods. He declares that ramie will grow luxuriantly anywhere on the Pacific coast, or from the warm, dry soil of New Jersey to the Gulf. It will produce crops that are simply enormous. From 18,000 to 20,000 pounds per acre are possible on soils where two or more cuts are made. Where irrigation is used and long seasons prevail three to four cuts per year are possible. It is easily grown and handled, needs very little cultivation, and does not exhaust the soil. The machinery for reducing it to a condition suitable for delivery to the factory is simple and inexpensive, and Mr. Slaught maintains that a few farmers could readily club together to purchase machinery, or a plant, capable of working up their joint crops, or a company can purchase machinery and run it for them, and they would be employed several months of the year by judicious arrangement of the cutting.

The whole world has long had a deep interest in the manufacture of ramie fiber, and numberless efforts have been made to simplify its preparation, so as to bring about its more general use. So far the most of its production and manufacture has been in China and India by hand labor, and in Europe their product has in late years been largely used in adulteration of silk, where labor is so cheap that it can be handled successfully. In Europe strenuous efforts have been made to introduce machinery into its preparation, with more or less success, and the same is true of this country.

It is estimated that some $30,000,000 worth of worsted and much more wool and woolen goods, as well as $19,000,000 worth of silk, is imported into the United States annually. Ramie fiber, that can be grown in this country, can take the place mostly of this, and largely with our own product of wool and silk equal or excel much of it in durability and finish. There is no end or limit to the possibilities, apparently, of the uses to which it can be put.

Ramie is now grown in China, Japan, India, Mexico, Cuba, Hawaii, Samoa, West Indies, Guatemala, Columbia, and Brazil, and (in the United States) in Florida, Georgia, Alabama, Louisiana, Texas, California, and Washington in small quantities. It is also grown in south of France, Italy, and Hungary. It is worth in China $50 to $80 per ton, cleaned by hand. This is done there by scraping the pellicle off the outside of the stalk, cut green, then peeling the bark, and with a bamboo stick rubbing out the mucilaginous gummy matter over a log, and repeated boiling, washing, and drying on scaffolds or roofs of their houses. For export it is only partially ungummed. For their hand weaving they strip this partially ungummed fiber into threads as long as possible, containing, of course, thousands of fibers held together by gum (saving the operation of combing and spinning), which they fasten, stick, or tie together end to end, making long threads in imitation of silk, which they weave into goods by hand, then boil and bleach out and color in the piece.

This primitive way of working, which can only be done with the cheapest of labor, has deceived most of our experimenters into the belief that the fibers were long as the stalk, like flax and hemp, when in fact they are hollow ribbons or veins, running between the leaves, of different lengths, according to growth of stalk, from 2 to 6 or 3 to 9 inches, and run from the bark to the wood all the way up, making it such an enormous grower. Want of knowledge of this, of course, prevented success in the making of machinery to prepare it for manufacture.

Mr. Slaught argues, and with apparent force, that before the farmer can be induced to engage in the cultivation of ramie he must be assured of a market for his product, and to that end factories for its manufacture must be provided. Capital is timid, and with reluctance finds its way into new and untried channels. For this reason governmental encouragement of a substantial nature is urged. The exact cost, feasibility, and practicability of manufacturing the product into goods must be demonstrated before capital can be enlisted or the raw material produced.

In his efforts to interest the people of the South and Pacific coast in the growing of ramie and as well as in his endeavor to interest capital in the establishment of factories for its treatment Mr. Slaught has been reasonably successful. He has been offered substantial aid to start the enterprise at Alexandria, and he believes the present effort is but the beginning of the development of one of the country's greatest industries.

EXCEPTIONAL LASTING QUALITIES AND WEARING OF RAMIE.

The following is said of ramie:

The qualities of ramie are world renowned.

Ramie has a resistance twice greater than flax and hemp; its use is adopted at the war office in France for the ropes of manageable ballons, powder bags, etc.

The goods of ramie sustains twice more washing than that of flax or hemp. Its use is adopted in several large hotels of Paris and throughout France, its resistance being much more considerable to the action of chemical washings.

Goods made of ramie can be washed with more facility than any other textile, and the most tenacious stains can be easily removed.

The numerous trials of washing which have been made have demonstrated that ramie sustains 200 washings, while flax and hemp can sustain but 80. The articles made of ramie will then radically assist these two textiles in the United States.

Ramie whitens better than flax or hemp, and the white is brighter.

Ramie gives no lint in wearing, and does not leave on clothes that disagreeable down left by flax.

Ramie has the brilliancy of silk, and its use is adopted in numerous fancy articles, such as furniture, passementerie, dresses, etc.

Ramie is more healthy than flax, hemp, and cotton; its use is prescribed for the dressing of wounds in many hospitals of the Army and Navy.

Ramie does not rot in water, and its use in the Navy becomes more and more general, as well as for fishing articles, and all others where the question of resistance to air and water may concern the consumer.

Curtains made of ramie have considerable advantages over cotton or linen curtains; they are of a much richer aspect, far more ornamental, fall straighter, and do not sink in the center, giving them a handsome appearance.

A thin starch keeps them well in order; they are far more economical as regards washing, and their wearing qualities are guaranteed to be double that of cotton or linen curtains.

The artistic guipures and laces of Puy de Craponne made of ramie are much finer than those of flax.

The marvelous qualities of ramie, employed, as it can be, in every way, have admitted its introduction even in the materials for gentlemen's and ladies' suits.

Many stuffs which are already used are mixed with ramie, to the great advantage of the consumer, for ramie increases the quality of material of wool, worsted, silk, or alpaca, camel's hair, or flax, it being mixed in with all of these.

Materials in ramie for dresses are of perfect quality; they can be washed like Vichy linen.

Duck of ramie, when of a fast color, replaces advantageously the English tick, and its wearing is twofold.

Ducking of ramie is made plain and colored for complete costumes. The quality is irreproachable.

VARIOUS ADVANTAGES THAT THE UNITED STATES WILL DERIVE FROM THE CULTIVATION AND INDUSTRY OF RAMIE.

(1) To promote the foundation of establishments for washing, dyeing, spinning, and weaving of ramie, and of providing work to a great number of persons.

(2) To suppress radically, within a few years, the imporation of flax and hemp, and products manufactured with those two textiles, the first of which is used considerably in the manufacture of table linen and different portions of underwear, bed articles, etc. As to the second, it is indispensable for various cordages, fishing nets, etc., which can not be made of cotton—this being favorable to the public welfare.

The fiber from ramie is beautiful, long, silky, and strong, closely resembling silk in luster and strength. It can be used as an adulterant or be entirely substituted for it in the manufacture of fine textiles. Goods like worsteds are made from it, and it forms an excellent adjunct to wool in the manufacture of fine cassimeres and woolens, improving the strength and appearance of these goods. Tablecloths, napkins, etc., are made from it that excel in luster the best of Irish linen; also delicate laces, velvets, damasks, and brocades of brilliancy unsurpassed by any other material except it be silk. In fact, there is no end, apparently, of the uses to which this fiber can be put. It has three times the strength of Russian flax and double that of the best Holland, Belgian, or Irish varieties.

RAMIE CAN SUPPLY THE PLACE OF MOST OF THE TEXTILE FIBERS NOW IMPORTED.

It is estimated that the annual importations into the United States of fibers, wool, worsted, and woolen goods, alpaca, and camel's hair, silk, and its manufactures, together with flax and linen goods, amount in round numbers to $150,000,000 ($189,000,000 under Wilson bill). Ramie fiber can take the place of most of this, and largely, with our products of wool and silk, equal or excel much of it in durability and finish.

Recent quotations show that it now costs $235 per ton to lay down Russian flax in New York; while the Holland, Belgian, and Irish varieties are worth more than double that amount in Liverpool. They would cost in this country, duties paid, close to 30 cents per pound. The United States Consular Report for July, 1894, mentions flax as selling in Holland for £100 per ton, or little more than 23 cents per pound. The same report also places the actual cost of producing flax of all grades, the world over, to average 15 cents per pound.

Ramie fiber is far superior to flax in every respect, and is capable of being converted into all classes of goods that are now made from flax, camel's hair, alpaca, wool, worsted, and silk.

RAMIE FIBER PECULIAR TO ITSELF.

Ramie fiber is unique in itself, and possesses qualities found in no other fiber of either the animal or vegetable kingdom. The great resistance powers of ramie and its ability to withstand the effects of water without shrinking, stretching, or rotting, will no doubt cause it to find its way into many special articles of manufacture when its abundant production shall make this admissible. The nonrotting powers of ramie will make it exceedingly valuable for roof covering and similar articles to be used in like exposed situations. It has already been used for sail cloth for yachts where expense was a matter of secondary consideration, as in the case of the contestants for the "America's Cup" in the great international yacht races of 1895, both *Defender* and *Valkyrie III* using sails made wholly or part from ramie cloth. In fact, as has been previously stated, the possibilities of ramie are practically without limitation.

THE RAMIE PLANT.

[Editorial from the American Farmer.]

The great majority of American farmers have a deep interest in the development of the ramie industry in this country. If we can once develop the manufacture of this fiber here it will be a source of wealth to our farmers greater than that of any one of their present products, except corn, wheat, and hay. Ramie will grow luxuriantly anywhere from the north line of Pennsylvania to the Gulf; it will produce crops that are simply enormous. Twenty thousand pounds per acre of green crop is possible on strong soils where two cuts are made. Where irrigation is used three or four cuts per year are possible. It is easily grown and handled, needs very little cultivation, and does not exhaust the soil. The machinery for reducing it to a condition suitable for delivery to the factory is simple and inexpensive, and a few farmers could readily club together, or a company purchase that capable of working up their joint crops, and which would be employed several months of the year by judicious arrangements of the cutting.

The fiber produced is the strongest in the world, being fully three times as strong as Russian hemp. It can be spun about as fine as silk, and will make either the strongest cordage and coarse goods, or the finest and most beautiful cloths, hangings, tablecloths, tapestries, clothing, etc. It readily mixes with wool or silk, takes the most beautiful dyes, and is, generally, an ideal fiber.

The whole world has long had a deep interest in it, and numberless efforts have been made to simplify its preparation so as to bring about its more general use. So far the most of its production and manufacture has been in China and Europe, where labor is so cheap that it can be handled successfully. A great deal of the world's supply also comes from India. In Europe strenuous efforts have been made to introduce machinery into its preparation, with more or less success, and the same is true of this country.

The general opinion is that the trouble lies with the decorticators, but this is an error. The decortication, if done on the farm and within a few hours after cutting, is as simple and easy as breaking flax or thrashing wheat. The decorticator is no more expensive than a thrashing machine. The trouble is in ungumming the fiber and separating it to comb. This is done in China and India by careful hand-work washing and repeated exposure to the sun, and pulling apart the strands by hand. This is work for the factory, not the farm.

Inventors and capitalists in Europe and America have been striving for decades to get machinery and processes which will take the product as it comes from the farm and convert it economically into thread. There is "wealth beyond the dreams of avarice" for the man who succeeds in doing this, and an immense addition to the agricultural resources of the country in which it is done.

Mr. Slaught, formerly of New York and of Los Angeles, Cal., now of San Francisco, who has devoted himself for years to work in behalf of ramie, is confident that this has at last been accomplished. Naturally, in a work of such difficulty and magnitude, there have been many sickening failures all over the world. Visionaries, political schemers, incompetents of all kinds have had their inevitable hack at it, but it is passing that stage and entering that of practical success. If the Government will now only give the work a little encouragement, the industry will be firmly established and a new product that will put untold millions of dollars into the pockets of the farmers will be given them.

RAMIE INDUSTRY TO BE ESTABLISHED.

[Special dispatch to the Baltimore Sun.]

WASHINGTON, *December 14, 1896.*

Mr. S. H. Slaught, who is at the head of the movement to establish in America the ramie industry, is now engaged in preparing plans for the opening of ramie factories in and about Washington. Mr. Slaught has recently returned from a trip through the North and East, where he spent several months interesting capitalists, mill men, and manufacturers in his plans. He has secured options on several buildings about here, one in Georgetown, and one in New Alexandria, Va. He expects at the outset to purchase his material in China and Japan and start his factories with the imported material. But in course of time he hopes to have the farmers of this country begin the culture of the ramie plant, and thus lead to the establishment of an industry which will turn out a hundred millions of dollars of goods a year.

The inauguration of such a vast enterprise is naturally attended with much difficulty. The great value of the ramie fiber is unquestionable and the various uses to which it can be put have already been explained in the Sun. In a long and careful report on the subject, Mr. Dodge, the Agricultural Department expert, has declared that as yet no suitable machine has been found for decorticating the stalks and also that it can not be grown in this part of the United States with profit, as the plants reach a growth of only about 3 feet. Mr. Slaught takes issue with Mr. Dodge on both questions, and has the pictures to show that ramie has grown in the Botanical Garden and also in the grounds of the Agricultural Department to a height running from 7 to 14 feet and produces two crops a year.

Mr. Slaught claims there is no difficulty whatever in raising large and lucrative crops of ramie in this country. But, as he says, why produce ramie where there is no market? The first thing to do is to create the market, then it will furnish an outlet for the crops of ramie. For this reason Mr. Slaught has determined to open his factories and run on imported material until the farmers begin to raise the ramie plant.

Mr. Slaught says there is a suitable machine for decorticating the plants and that he has a successful process for cleaning and degumming the fiber. He has letters from manufacturers in all parts of the country, including several prominent firms in Baltimore, who are interested in the development of the new industry. There is no doubt that if ramie can be handled by machinery it will be a great industry in the United States. Ramie can be used for innumerable purposes. The fiber is a species of silk, which while not as fine as the silkworm silk, possesses many qualities which the latter does not. The two together make a very effective combination, the ramie being used for the foundation and the silk to give the gloss and finish.

Ramie is also combined with wool and silk, or with wool alone, and produces goods of much beauty. The ramie fiber wears even better than silk. From it are made carpets, brocades, ribbons, laces, curtains, and dress goods. It is especially valuable for surgeons and doctors in the form of dressings for wounds, and is largely in use.

At present ramie goods are sold at high prices, because the stuff is made by hand. It is principally raised in China and Japan and is cleaned by hand, the process being very tedious.

Mr. Slaught has been in Washington for about three years demonstrating that ramie can be successfully produced in this country, and he has created a great deal of interest in the work. If the undertaking is a success, the credit will be almost entirely due to him.

GOVERNMENT AID APPROVED.

SAN FRANCISCO, CAL., *March 12, 1892.*

To the Senate and House of Representatives of the United States of America:

The undersigned, State of California World's Fair commission, State Board of Agriculture, members of chambers and boards of San Francisco, and others, in consideration of the fact that this country has been proved to be well adapted to the raising of fibrous plants, ramie, flax, hemp, jute, etc., and that the Southern Gulf States, and this coast, California, Washington, and Oregon, and the southern part of Nevada and Arizona Territory, are especially adapted to the growth of ramie, as has been proven for the past twenty years, in the State of California in particular; and as Mr. S. H. Slaught, of California, has spent the last three or four years in developing its preparation and manufacture, and, according to the expert testimony, scientific and manufacturing, has developed an economical way of preparing the fiber so as to take the place of imported goods and wool to mix with our domestic clips, capable of converting them into the finest fabrics, and superior to imported wools, as well as to make the best of worsted goods, a variety of underwear, and silk-mixed upholstery, equal to any material now imported, and more durable than silk; and considering that many million dollars' worth of these goods and materials are now imported at great cost, and can be thus produced by ramie and the aid of ramie fiber at a great reduction of the present prices, thus saving many millions of dollars annually to our people; besides giving employment to many thousands of working people, and a very remunerative product for our agriculturists:

Therefore, it is a sense of our earnest solicitation that the General Government appropriate several hundred thousand dollars to develop the production and manufacture of ramie in the West and South—hemp and jute in the Middle States, and flax in the North and West. A million dollars would be well expended could such an important enterprise be launched at this time successfully in this country. And in consideration of the coming Columbian Exposition in 1893, at Chicago, Ill., the coming year, we believe that if this measure could be started immediately by Congress, making it available and sure within a few months, ramie could be planted and grown and a very beneficial exhibit of its working possibilities made.

Therefore we earnestly recommend that the bill for at least $500,000, now presented, be acted upon favorably as soon as convenient or consistent with proper care and safeguards will permit.

It undoubtedly will be a good investment, and "what is worth doing at all is worth doing well." We heartily recommend Mr. S. H. Slaught, of San Francisco, known to us as energetic and capable of pushing this enterprise with honor to himself and this country.

C. L. Taylor, president Chamber Commerce, San Francisco; C. B. Stull, president San Francisco Produce Exchange; T. C. Frieldlander, secretary San Francisco Produce Exchange; Barry Baldwin; C. M. Chase, California State Board of Agriculture; H. T. Emery, secretary merchants' exchange; A. T. Hatch, World's Fair commissioner; Joseph S. Spear, jr., secretary State Republican committee; T. G. Phelps, collector port of San Francisco; Andrew J. Moulder, school superintendent; Abraham Halsey; J. T. Thomas, secretary World's Fair commission; Wm. McKee; Geo. W. Walty, labor bureau; B. M. Lelong, horticultural society; D. Samuels, leading dry goods merchant; T. A. Baldwin, agent B. L. Solomon's Sons, Oronoco Mills, Philadelphia, fifteen years with John D. Cutter & Co., New York and Philadelphia; Allan C. Reid; Chas. M. Plum & Co.; G. T. Weeks, editor Irrigation Age; M. Brown, of Brown Bros. Co., Oregon; Trunar Hooker Co., farm implements; R. M. McDonald, bankers; E. J. Baldwin (Lucky B., capitalist); B. Sherdeman, of Brown Bros. & Co.; Brown

Bros. & Co., manufacturers, Oregon; Bassett & Bunker; Scipio Craig, editor Redlands Citrograph; Peter T. Hollings, foreman Pioneer Woolen Mills; R. H. Beamer, member State board of equalization; Wm. H. H. Hart, attorney-general; J. R. McDonald, State treasurer; E. T. Wait, secretary of state; J. D. Gilchrist, keeper of archives; California State Bank, A. Ibbner, cashier; Richard Gird, Chas. Greene, W. P. Mathews, Fredk. Cox, John Boggs, Geo. W. Hancock, L. W. Shippee, J. D. Carr, unanimous indorsement State board of agriculture of California at Sacramento, by resolution; H. M. Markham, governor of California; G. W. Carpenter, State senator; A. H. Crew, cashier Chico Bank; H. P. Stabler; H. R. Strong, produce merchant, Sacramento; F. R. Dray, State senator; R. McMurray, State board fair commissioners; G. R. Fitch, Bulletin Co., San Francisco; W. T. Fitzgerald, supreme court commissioner; Henry S. Foot, supreme court commissioner; John Parrott; Louis F. Monteagle; N. C. Carter; Thos. Kay Woolen Mill Co., Oregon; H. W. Hutchings, president California Academy of Sciences; S. B. Davidson, Downieville, Cal.; board of lady managers World's Fair commission of California, Mrs. E. C. Smith, president, Hester A. Harland, secretary; Chas. H. Larendon, New Orleans, La.; Thos. H. Thompson, secretary World's Fair commission, by special letter to S. H. Slaught, resolution of board; Irving M. Scott, president California board World's Fair commission, by special letter to S. H. Slaught, indorsed by the following: I. C. Stump, chairman Republican State committee; Wm. S. Chapman, capitalist and miner; Jas. C. Jordon; W. P. Coleman; Geo. B. Katzenstine, secretary O. V. Col. Co.; H. H. Markham, governor of California; Chas. Faulkner, cashier Bank of Butte County; Watson Chalmers, editor Chico Independent; C. S. Brooks, cashier The Rident Bank; A. C. Bingham, cashier Decke Jewett Co. Bank; J. E. Knight, superintendent Marysville Woolen Mill; J. U. Hopteller, president N. C. Bank of Savings; Lloyd Tevis, president Wells Fargo Bank; E. B. Pond, ex-mayor of San Francisco; Geo. C. Perkins, ex-governor; The Examiner, by C. M. Palmer, business manager; Wm. H. H. Hart, attorney-general of California; J. B. McDonald, State treasurer of California; E. G. Wait, secretary of state of California; A. Abbott, cashier California State Bank; C. T. Bidwell; C. W. Bush, manager Bank of Yolo; A. D. Porter, president Yolo County Bank; Frank Miller; J. Prentice Smith; Jas. G. Fair, capitalist, San Francisco; Joseph S. Spear, jr.; and many others.

LETTERS FROM THE PEOPLE.

[San Francisco Examiner, July 13, 1893.]

To the Editor of the Examiner.

Sir: Having spent two months here in San Francisco since successfully interesting the people in the southern part of the State in my ramie industry, growing and manufacturing, I find five companies will be inaugurated this coming fall, and that there is a general feeling in favor of doing something here also in the interest of this city. But the trouble is action does not "culminate." All sorts of excuses are rife as to the times, etc. There was never a better time or condition of things than now to make it go. You can by simply starting this best, most profitable, and easiest of all manufacturing enterprises on its feet now fill your houses and offices with tenants and make employment for the girls and boys, men and women, that will build up and support a larger city than this.

Two years ago no one would think of investing in anything but fruit, real estate, and savings banks. Of course, if a man was not hungry he would not feel like eating. If we had stock laws that protected the small stockholder from assessments and debts, it would also induce the larger capitalist to assist such enterprises as would at least benefit him indirectly without worry or annoyance, care or debts, and then he would help without wanting to control, and, not controlling, would not get so greedy as to "freeze out" the little fish. No illegitimate or unprofitable business could be started or carried on under a limited liability law, so let us have the privilege, at least for certain good businesses, to combine our capital safely, cooperating with honest, legitimate investments.

Let those gamble who wish. As for me I don't want any business that has to be supported with assessments. I want my business to pay me dividends, and everybody interested with me. Now, as things are as they are, and we have to wait for such a law, I have organized a company on a cash basis, which is virtually the same thing. I have sold my rights to the company for a controlling interest, and a majority of the stock I will put up as a pledge that the company will not be run in debt nor assessed.

I will guarantee to pay all debts and assessments on every share of stock I sell. Industries can not be built up of this kind without interesting the people. Some have "sworn off" from "touching" stock, and while interested in seeing things go, there is no one left to make them go.

I think everybody would be willing to do something if everybody else did. Many have told me they would be willing to give something, as it would be to their interest to have it succeed, but everybody seems to have lost confidence in everybody and themselves.

Now, if a man can not trust himself, and has no confidence in himself, how is he to have in anybody else? Hundreds tell me they would be willing to do if others would. There are 10,000 here who would be benefited hundreds of dollars by giving outright $1 each; 1,000 by giving $10 each would be benefited thousands in the end; and 100 who, by giving $10 each, more yet, and I know of at least ten who, if they could be induced to give $1,000 each, would benefit sevenfold, and some many times more.

Millions can be made by the farmers raising ramie and $100,000,000 can be put into goods yearly at the present demand in this country now imported—silk and worsted goods and material, etc. Some of the real-estate owners who say they have no money will give $1 each, and there are 10,000 of them here. C. J. Colley, architect, Flood Building, Market street, is as little able as any of them and says he has no money, but will be one of 1,000 to give $10 each. Now, come up and do that, 100,000 of you, and I'll put $50,000 of the stock into a charitable institution that will do more good than all the charity you have in the State now. I believe one ounce of preventive worth ten thousand of cure. My way is to give a person something to eat until he gets work, and help them to get the work and pay for their own living. A child that likes to work is comparatively safe, especially if you let him have a chance to work. If the people that have their money in savings banks (money in savings without industries shows bad thrift) would invest it in manufacturing industries, they would supply themselves and others with work and have more to put into homes, business, and banks than now. Come on with $1, $10, and $100 or $1,000 each. I'll take it and show you that this one industry will be a success of no small dimensions. I am a practical farmer, nurseryman, machinist, and manufacturer, as well as experienced business man, and can give you all the assurance and recommendation necessary; yet I have experimented for five years with this ramie business and the laws and the people, and in the eyes of experts made successful strides, yet do not know all about it. Why should I? The cotton, wool, etc., has been manufactured for one hundred years or more, and is not perfected yet.

Yours, etc., S. H. SLAUGHT.

[Florida Agriculturist.]

RAMIE AS AN AMERICAN CROP.

Editor Florida Agriculturist:

Having read your articles of July 3 and 17, 1895, on ramie, including parts of my writing, published in Pacific Rural Press of March 12, 1892; Sacramento Record Union of March 26, 1892; American Farmer, August 1, 1894; Inventive Age, September 1, 1894, of Washington, D. C.; Southern and Western Textile Excelsior, fall of 1894, as well as the Senate Miscellaneous Document No. 120, of the last Congress, I will not repeat many of those statements, but go on to notice some of the points which have crept in from other sources, many of which I differ with, and, if you will pardon me, I will add my opinion of the way to get at this whole business so as to get some benefit and good out of it to the farmers, and the working people, and the masses, in the purchase of better and cheaper goods. Is not that what we want, to benefit everybody if we can? I think so, and that is why I am asking the Government to help do it.

There is no other way to have it in the interest of this country and the people—the whole people; and the quicker we do it and the more extended the better.

The larger the scale we start in on and the further we carry it out, the less disastrous competition we will have from foreign countries, and the more successful we shall be in promoting our own interests.

As to decorticators, we have several that will do fairly well; all and a thousand times more than we have to do to commence with, and they will never be perfected or the best ones brought out until we have something to do to pay to build them.

I never knew capital to seek eagerly for investments that did not show immediate or prospective returns soon, and there is no use for decorticators until we have a market for the fiber, and that must be a home market in the interest of an American—a ramie industry—to make and sell the goods and materials as ramie of high grade, competing only with foreign high-priced goods, and we have no foreign market for our machine-decorticated ramie fiber nor should we want any. What we do want is a home market for our machine-decorticated ramie fiber, and that in factories to make the goods of high grade, of the right kind, and in quantity.

When we have supplied our home markets, which are the best in the world, then we can reach out for other profitable fields, where we can compete favorably with the goods, and only the goods. The best profit to us is in the factories, to make the goods properly; when we have such markets we will very soon bring out all the machines we want; until then we will not.

Engines were not perfected until we had railroads, and they do say, "they are perfecting them yet and now," after hundreds of millions of dollars have been invested in building railroads. Pray when were threshing machines, mowers, and reapers perfected? Or the cotton gin? This talk about "politicians' perfecting machinery," and "before we have use for them," is all nonsense.

They will never do it anyhow, and if they should tell us they had, we would not believe them; and I do not see how they can get rich out of them, if they should perfect them, and say so, without a market. It takes money to start a business or an industry; not talk, especially misrepresentations. Why try to build up any industry by claiming it all for one part of the country either?

Ramie will grow with supplied moisture anywhere in the United States where the winters are not too cold so as to freeze out the roots in winter; two crops at least a season.

It has grown for forty-one years and over here in Washington without protection of the roots in the the ground in winter. Not almost, but just a little over, forty years, and lived outdoors all that time without any protection, and grown from 10 to 14 feet high each season, ripening seed that has always grown with proper usage. I have been experimenting with it here in the Government Botanic Garden and on the United States Agricultural grounds I accidentally came across it, not having learned through the Government fiber agent that it had lived through any winter here, nor that "it would grow here more than 2 feet high all summer." He seems not to have found it out, or believed it, when shown the plants.

It grew over 12 feet high here last summer and ripened seed fully long before frost came.

We dug roots last summer (after the tops had grown to about 7 or 8 feet high) and planted or rather heeled them in a hard, dry, lumpy, clay ground, of very poor quality, where they grew without care and no watering and ripened seed that grew in the hothouse last fall in November, after having lain for two days, after being picked, on the outside, on the grass in a cold freezing rain, and they grew too. I have the plants growing now in the Botanic Garden from them.

I have had the full care of the patch, which I spread out and filled up this summer by layers in the ground, and grew it for fiber, which I cut the first part of July, then 5 feet high; fine, straight, and nice, as good for fiber as can be grown anywhere in the world from roots one year after planting.

The second crop I have just cut, on the 5th instant, well matured, and as high as my head with my hat on, fully 5 to 6 feet high.

By the kindness of Mr. William Saunders, now of the Agricultural grounds, I had a permit to plant a patch on the Agricultural grounds, near the seed house, in a heavy clay soil, very much worn, dry, and hard. It was very lumpy when they had it dug up for me to plant. Was not "summer fallowed nor cross harrowed," and was planted cheaply as fast as dug. It didn't cost half of $20 per acre. The roots were furnished from the Botanic Garden by W. R. Smith, who says Washington and New York are the northern limits to grow ramie successfully and easily, commercially, not botanically. These roots were dug up when the tops had attained a height of 7 to 8 feet, out from the original patch of forty years' growth, which he planted in 1855, and has ever since faithfully guarded and brought down to these times, and our Government fiber agent seemed never to have heard of it.

Now, when we speak of Ramie growing, we should do so as it should be grown for business, and that is, thick all over the ground and from 4 to 7 feet high at the right stage of ripening, and that is when it begins to brown at the bottom, and before it begins to branch out at the joints. Then, we will have only about 5 tons of green stalks, and the leaves, which we knock off on the ground before cutting, will amount to about three-fifths as much more, or in all 8 tons, and this cut will produce about 1,000 pounds of decorticated fiber, and this is all the farmer has to do; no cleaning and no ungumming. Now, here in Washington, I have grown the second crop which is fully up to if not better than the first one. They were both grown in two months' time each. The second one lacked only one day of two months, but could have been cut one week sooner.

It should grow thick all over the ground, or in beds 4 feet wide, with narrow paths between, and these only need plowing out or cultivating. It must not be grown in hills to be "cultivated," for fiber. Any estimate in California of 60,000 pounds to the acre in two cuts is ridiculous. Mr. E. W. Hilgard estimated 17 tons (34,000 pounds) to the acre the first cut, in Berkeley, which was as wrong as wrong could be. Of course he weighed and estimated an old, hard, heavy, ripe stalk, too many to the acre. He guessed wild. His specimen stalk, of course, overgrew a long time before the proper time of cutting, and if he had extended the cutting time until fall (as it will keep growing all summer) he would have increased his estimates of the first crop and decreased the second crop, which, as it was, he almost dwindled to nothing.

You state that "the number of crops depends on the climate" and that "it wants a hot, moist climate" and "that it grows in Florida, Mississippi, Louisiana, Texas, on the Gulf, and in central California, on the Pacific Coast." And you also say, "When cultivated in south Florida, three crops can be relied upon a year." Why not in north Florida, and Georgia, and the Carolinas, and north California, Oregon, Washington, and Sitka, Alaska? (where they have just about the climate of Washington, D. C.) and we are growing three crops here. I have the third crop started here now, in three different places, and plants are a foot high.

In China, where the climate is colder than here, they grow three crops, and cover with mulch in winter.

In California, General Bidwell, our temperance candidate for President, has grown it as far north as Chico, north California, and as fine as anywhere on earth. He has grown it for twenty years without replanting or irrigating much, if any, in a hot, dry climate—not on the coast.

Ramie will grow, and well, too, anywhere in the summer, where continual moisture can be had for each successive crop; some soils and localities are preferable, of course.

The number of crops depends on the length of the seasons and warm weather, of course, but not so much on the climate or soil as on growing moisture and warmth in the summer. It need not and does not grow in the winter—nor plants have to stand frost where there are no plants—none anywhere in the frosty winter.

In Berkeley, the soil "selected" is rather a black adobe or clay loam; in Tulare, a sandy wash, alkali land; in Bakersfield, sandy loam; at New Hall, a yellow sandy loam and clay; Stockton, heavy river bottom, filled land. Well, it grows, if planted and watered, I guess, everywhere on this earth. I have seen it tried in many places and ways, and it is easily decorticated, much easier than flax is broken and prepared, and it needs no cleaning, hackeling, or other manipulation on the farm. It must be done without retting or hackeling. These two processes are saved as compared with flax; but it must be broken green as fast as cut, the ribbons dried immediately—artificially, if you want it perfect at all times and economical—and then baled and sent to the market or factory as soon as possible, where it can be cared for without injury.

Decortication must not be made expensive or complicated, and only needs to be done in a crude way.

The particular work of cleaning (which is not ungumming at all) is done in the factory, and that must be done without ungumming fully when it is left in the same condition as the China hand-worked fiber, which is both decorticated and cleaned by hand. Not "semidecorticated," but doubly so.

Now, let me tell you my idea of this whole business. If it will grow and survive here, you have a sure thing there, especially if you can irrigate or have a moist subsoil and this one industry presents a—in fact the—great chance for the making of a prosperous era in these United States. It needs the whole country adapted for it to take hold and compete with the world—one part alone can't do it so well.

The industry can be developed by starting factories that will contract with the farmers for their product, thus enabling them to plant, raise, and prepare it. Then the inventors can bring out their inventions for decortication and preparation, which is impossible for them to do without production.

No one can build the proper machinery without knowing just what is required to be done with it.

A demonstrative factory in Washington will prove the whole business and open up a market for the production all over the United States.

S. H. SLAUGHT.

WASHINGTON, D. C.

[American Farmer, Washington, D. C., 1894.]

RAMIE, OR "CHINESE NETTLE."

[Interview with Mr. S. H. Slaught.]

The cultivation of ramie in this country is a very important subject, and probably no one in the United States is more familiar with its value and the various uses to which it can be put, and also its cultivation, than S. H. Slaught, of San Francisco, Cal., who is now in Washington, D. C., making arrangements to start a factory in the United States to convert the ramie fiber into goods and thus create a market for it, which he claims is necessary to be done before it can be successfully raised in this country.

He says that ramie is a species of the hedge nettle, but thornless. There are three to five different varieties, all suitable for this climate, but they vary in excellence in the market from 1 to 3 cents per pound, the best, which I recommend, being worth 6 cents a pound net here in the rough, as it comes from the decorticators, dried and baled.

Decortication itself is of a very simple nature, being to break, strip, or peel the bark from the wood, to separate the woody matter from the bark and fiber, or "ribbons," which must be done as fast as leafed and cut, or on the same day of cutting. It can be done to pay, by flail, treading with horses, or flax break, and shaken out; or, more properly in these days, with a machine run by horse or steam power, and with four to six men working 2 acres a day, easily. One machine will run through 120 acres in two months, and keep a gang of men busy all the summer through. Ramie will grow in about that time if well supplied with water—irrigation or natural moisture.

Ramie should be cut green when about 4 or 5 feet high, and when it first begins to brown at the bottom of the stalks. Ramie will not "ret" like flax or hemp, and thus must be broken green before the gum or glue sets to the stalks. It should be run from the decorticator on an endless wire carrier through a drier, and baled at the exit for shipping to the factory, where it is, by processes, cleaned, ungummed, and prepared for carding and spinning. It is excellent to knit or weave into goods of superior quality, pure or mixed with wool, for cassimeres, woolen and worsted fabrics.

Ramie fiber is of a very firm texture, and of uneven lengths, from 2 to 6 inches or 3 to 9 inches. It is a flat, hollow ribbon, and thus takes dyes in all shades of the brightest colors as well as silk. It is not of such a glossy nature as common silk, but partakes of what is called dead silk in black, which all ladies know is most desired in expensive goods. Silk is wound off the cocoons from 800 to 1,000 yards long, and doubled in the winding seven strands; while ramie, being short, must be combed or carded and spun like raw silk, or broken silk, and therefore is not mixed with fine silk in the way sometimes spoken of, but made into thread is used to mix in the body, the strongest parts needed. For the warp or filling and sometimes for the body of the goods silk may be used for the raised glossy figures or flowers, giving a beautiful contrast and exquisite shading. In wool mixtures it can be graded to the even lengths and combed or carded and spun as a complete mixture, benefiting the wool by its superior strength, gloss, and finish, the wool making the nap and warmth, the ramie alone being porous and cool for summer wear.

Ramie is not adapted to be worked on linen, hemp, cotton, or jute machinery

It is estimated that some $30,000,000 worth of worsted and much more wool and woolen goods, as well as of $19,000,000 worth of silk, is imported into the United States annually. Ramie fiber, that can be grown in this country, can take the place mostly of this, and largely with our own product of wool and silk equal or excel much of it in durability and finish, besides for all other purposes in ramie goods pure, mixed silk, and other ways, I have no doubt, to amount to much more. There is no end or limit to the possibilities, apparently, of the uses to which it can be put. Why should we not hasten to reap the direct benefit as well as the incidental impetus it would give to all other enterprises, employments, and home market?

Ramie is now grown in China, Java, Japan, India, Mexico, Cuba, Hawaii, Samoa, West Indies, Guatemala, Colombia, and Brazil, and (in the United States) in Florida, Georgia, Alabama, Louisiana, Pennsylvania, New Jersey, the Carolinas, Maryland, Virginia, Delaware, Texas, California, and Washington in small quantities. It is also grown in south France, Italy, and Hungary. It is worth in China $50 to $80 per ton, cleaned by hand. This is done there by scraping the pellicle off the outside of the stalk, cut green, then pealing the bark, and with a bamboo stick rubbing out the mucilaginous gummy matter over a log, and repeated boiling, washing, and drying on scaffolds or roofs of their houses. For export, it is only partially ungummed. For their hand weaving they strip this partially ungummed fiber into threads as long as possible, containing, of course, thousands of fibers held together with gum (saving the operation of combing and spinning), which they fasten, stick, or tie together end to end, making long threads in imitation of silk, which they weave into goods by hand, then boil and bleach out, and color in the piece.

This primitive way of working, which can only be done with the cheapest of labor, has deceived most of our experimenters into the belief that the fibers were long as the stalk, like flax and hemp, when in fact they are hollow ribbons and veins, running between the leaves, of different lengths, according to growth of stalk, from 2 to 6 or 3 to 9 inches, and run from the bark to the wood all the way along up, making it such an enormous grower. Want of knowledge of this, of course, prevented success in their making machinery to prepare it to manufacture. But now that we have scientifically investigated the fibers before we undertook to build machinery, and found out just what was wanted, it was easy enough to solve the difficulty, and we had a simple way to treat or finish it afterwards, success was attained. The farmer is not bothered with the ungumming, which is the difficult part of the work, after the process of cleaning. This is all done in the factory.

CULTIVATION.

Ramie for fiber must be grown rather thickly on the ground, so as to grow tall, straight, and slender, without branching, and it takes a year or two to make a marketable crop at best; though, on the right kind of soil and proper attention, many stalks can be cut in six months suitable for fiber. It will improve for some years, three at least, and may once in a few years stand overhauling, like tearing up the surface and letting the roots in the ground grow up fresh. General Bidwell, of Chico, Cal., has grown a patch good yet for twenty years. Some soils may need fertilizing, but I think better without for fiber; especially with good irrigation, at least in California.

As to planting the roots or cuttings, it can be done in various ways; but I have had early and extended experience in nursery and farming, as well as machinery and manufacturing; so looking to the end that the greatest success and efficiency might be attained, I will suggest this plan: Plow and pulverize your ground well and deep. Roll smooth, mark out as for corn, but make the rows 6 feet apart, plant the roots in the furrows from 1 to 3 feet apart, dropped like potatoes, and cover like corn; or you can stick the roots, butt down, slanting sideways, 2 or 3 inches deep and cover the top about an inch, or let it come almost or quite to the surface if the ground is not mellow and sandy and is moist to the surface or liable to bake. Cultivate well between the rows until the sprouts are up 2 or 3 feet high, when layer out to cover the ground in a bed 4 feet wide, leaving a space 2 feet wide between the beds to use and cultivate from which you can procure roots, that spread out into these spaces, to replant or sell, without disturbing the beds. You will find it will pay you for some years to come to raise roots to sell, as a little demand will absorb all now on hand, and I have no doubt the price will double or treble before the rush is suppied.

The first crop after layering can be cut with sickle by hand, and all the poor or branchy shoots can be layered to fill up any vacacies, or cut into cuttings and planted like grapevine cuttings.

Now, these 2-foot paths can be kept open and used for cultivation, or, after the 4-foot beds have become solid, can be allowed to spread full.

I advise this plan, as a 4-foot bed can be grown solid thick sooner than 6 feet, and after that can be easily extended. When roots become plentiful and cheap you can plant thickly all over the ground at first planting if you choose. It will take to plant an acre this way 2,500 6 feet by 3 apart, or 7,500, 6 feet by 1 foot apart, making the first cost enough on a large scale, and with layering and cuttings will soon cover the beds. If planted this spring a scattering crop can be cut in the fall from the layers, and the next season three or four fair crops can be expected, and the next year your most sanguine hopes ought to be realized.

Ramie is not a noxious weed in this country, does not spread over the country by seed, is not hard to eradicate, dies with drought, flood, or plowing out to sell the roots or replant. As to its injury or drain on the soil, I must say that it has been overestimated, as the comparisons have been made as with grain and fruit that grow and ripen grain, wood, fruit, seed, or pits, which makes the greater drain and from the surface. The ripening of seed or pits, hardening of stem or wood, is much more exhaustive of the soil than the first or green part of the growth. Ramie should be compared with alfalfa more properly, but has some very important advantages over that also. While alfalfa roots deep and draws its substance not mainly from the surface, but deep down in the subsoil, and far into the subterranean depths of moisture, it does not materially exhaust the surface, though in cutting green it is all removed, stalk, leaves, and all, sold or used, hardly, if ever, returned even in manure if fed on the place; yet, if ripened for seed it exhausts the soil much more; while with ramie the roots also go down deep, not only one taproot, but many, each stalk supplying its own, every joint or piece supplying them if detached from the mother roots. Ramie is always properly cut green, all the leaves, about two-fifths of the whole weight, being stripped and left on the field; the wood and juice are separated, the wood burned in driers, and the ashes can be returned with little trouble, so that nothing but the pure fiber need be taken permanently away.

Now, if an overgrown stalk should be cut, weighed, and burned to estimate the loss, the result multiplied by the number supposed to be on an acre, it might be that "17 tons per acre" could be estimated, which would give a very erroneous impression from the real facts. I think the leaves and wood being returned, might add to the soil, together with irrigation and the air, all, or nearly all, removed in the fiber, and possibly more, in some cases at least. Something is taken from the air and water, and more brought up from the subsoil, or below. At any rate, I have seen as fine stalks on ten, fifteen, and twenty year old grown patches of ramie (that I have been told had not been fertilized and not much watered) as I could wish to raise. About 5 tons green stalks can be expected off an acre each cutting, making a thousand or more pounds of fiber, or 3,000 or 4,000 pounds in a season of three or four cuts.

Ramie fiber must not be bleached before sold to or used in the factory, as it needs different treatment for different uses, and you must not be deceived by long, fine, bleached or unbleached samples, as there is no practicability in them. Ramie is not ungummed if long, and can not be used in that condition except by hand, and then must be prepared, while green and fresh, by hand. We want no hand work, and can not compete with foreign labor in that way. So do not be deceived by gaudy showings.

Bales of it have been made long and shipped from the South, twelve to twenty years ago, and found unsalable for profit to this country, and spoiled for their uses in Europe by hand or otherwise. We want plain, practical, working material.

After decortication ramie must be thoroughly and economically, by two separate processes, cleaned and ungummed in the factory, and then it is as free and pure as wool, camel's hair, or alpaca, and, worked into even lengths or separated into 2, 4, and 6 or to 9 inch lengths, will comb or card and spin as readily by machinery, and if properly done is of full strength and gloss. The farmer, except for curiosity or satisfaction, does not need to be a manufacturing expert to pass on the machinery or fiber. He simply, necessarily, wants to be satisfied that he can put into bales and sell the raw material, and roots maybe, enough for several years to pay him for planting, raising, and marketing, as well as or better than anything else he can raise, and that he will get a better market for his other products and be able to buy a superior article of goods for less money than is possible without it. If he can make $80 to $100 or more per acre on a large number of acres for several or many years, and never less than $50 clear, and double or quadruple his market, and that at home, instead of chances abroad; get his goods for less than half or one-fourth of the price he now pays; get a genuine, durable article that will wear four times the length of time the adulterated article he now pays a big price for; builds up his country, makes his property valuable, I think it is worth a little effort and faith, even if there is a good deal of work and maybe some few mishaps to start with.

LOCAL EXPERIMENT WITH THIS RAMIE PLANT.

The part taken by ramie in the textile industry is not well known by the public generally, though some have taken the pains to understand it, although it has been used by European manufacturers for many years.

American makers have depended largely upon wool, cotton, hemp, and jute. In the isolated cases where ramie has been used in the United States the decortitated and cleaned article, or mostly the yarns or prepared fibers for spinning and weaving, has been imported through England, France, or Germany, of the Chinese, Japanese, or India product, already decorticated and cleaned by them by hand.

The French and Germans, as well as the English, have secret processes by which they free this cleaned fiber, to some extent, and use it in manufacturing many articles and goods, which they sell to us for silk, worsted, and other high-priced goods.

The processes of freeing this cleaned fiber from the gum has been imperfectly understood there, and done in a very imperfect way, and much more so here, thus making too harsh and uneven goods not perfectly free from gum. Hence much of the experience with ramie in this country has been unsuccessful in most respects and imperfect in others. Too many depend on decorticators to do it all. The oriental nations strip their decorticated and clean not more than three-fourths ungummed fiber into fine threads, stick or tie them together end to end, and weave them into goods without fully ungumming. No machinery can be made to do this crude work as they do, for fine goods especially, and the gum is washed or boiled out in the piece, after having been woven into fabrics. We must prepare it differently to be entirely worked by machinery; that is, every fiber must be entirely freed from gum, separated and kept from tangling or injury, as wool, camel's hair, or alpaca, and separated into grades 3 and 4 or 6 inch lengths or staples.

This is what Mr. S. H. Slaught claims that he has made such a success of as to far excel anything now done in Europe, both in quality, quantity, and cheapness. And as the market is what is necessary for the promotion in this country, it must be had through manufacturers here to make the goods that will be sold on the markets and used by the people before they will appreciate it or fully understand it. No matter how many decorticators and cleaners we have, or how well recommended (as they have been by whole pages of prominent names at different times in the United States), it does nothing toward starting the industry, because there has been no market and no understanding of the process of ungumming of this cleaned fiber.

Now, what Mr. Slaught claims is that the factories to manufacture the best goods that can be made out of ramie in lieu of present importation must be started first. And even if it were true, as the Agriculture Department claims, "that ramie will not grow 2 feet high in Washington in all summer," or that there are no decorticators perfected (or "owned yet by them"), it does not affect his plans in the least, as it can be raised anywhere in the country South or West, and, both decorticated and cleaned, can be imported to start his factories. We must make our own markets at home and use our own products by manufacturing it into the best and highest-priced goods we are now importing in order to make it a profitable American industry and do our farmers and working people any benefit and the masses a great saving in the price of goods, as well as secure general prosperity.

In France ramie has been used from the crude cleaned fiber of the Orient, and made into spinable fiber or yarns and goods to the largest extent of any country for many years. The manufacturers there use this imported decorticated and cleaned fiber, and have invented and kept secret their processes of ungumming, by means of which they are enabled to produce superior goods; and many of our finest and costliest draperies and carpets are mostly or partly ramie goods from French mills.

Both in France and Spain, where more than ten years ago the Society de la Ramie Francisco was organized with a capital of over 3,360,000 francs, the superior value of ramie over flax, hemp, and cotton for textiles requiring firmness and body has long been recognized on account of the greatest length, strength, and durability, as well as gloss and finish of this fiber.

It may not be so generally known that ramie has been experimented with in Washington, D. C., and as far as the growth of the plant is concerned, as well as the fineness, quantity, and quality of the fiber, and the number of crops that can be grown, has been attended with gratifying success.

In midsummer of 1894 roots were dug from patches in the Botanic Garden, where the stalks had attained a height of 7 to 8 feet, and were cut up and planted in dry, hard ground, and without much attention grew 4 feet high and matured seed November 1, 1894, which was then planted in the hothouse, where the plants were kept through the winter and potted in the summer. Said plants are now on exhibition and growing finely.

Mr. W. R. Smith, who has charge of the Botanic Gardens, received the plants from Mr. Shaffer, of the Patent Office library, who imported them from Mr. Wilson, of the botanic grounds of Java, in 1855. Mr. Smith has let these ramie plants grow in our Botanic Garden ever since, but of late years not much publicity was attained until Mr. S. H. Slaught, of San Francisco, Cal., came here to complete his work for California and the South, where he had interested the people in its great importance and profitableness. He for the first time learned that ramie was successfully growing in the open ground in Washington. He therefore looked up Mr. Smith, who told him it had been growing there for thirty years, and on looking up a label which referred to the Patent Office reports of 1859, and on looking that article up he found that it still referred back to 1855. Mr. Slaught procured that volume and found where this first effort was made forty years ago. He had all this information published in United States Senate Miscellaneous Document No. 120 of the last session of Congress. Mr. Smith kindly and wisely gave Mr. Slaught the liberty to experiment and use the growth of 1894 in his exhibition at Moses & Son's store, on Eleventh and F streets, where he put forth much effort in trying to get the public interested in it.

All the winter he had a free exhibition at the Normandie Hotel, and grew roots in pots at all the leading hotels of Washington, and now at the Riggs House, Fifteenth and G streets NW. And, having interested Congress and procured the consent of the Secretary of Agriculture, J. Sterling Morton, and wishing to prove every possibility and disprove every error and misrepresentation about it and fortify himself in his work for the whole country, Mr. Slaught prevailed on the obliging and public-spirited manager of the garden to let him have the entire managing of the ramie experiment in the grounds. The plants were allowed to grow thickly all over the ground and started at the earliest opening of spring, which was very late, on account of the late cold weather, so they did not start until all frosts had passed, about the 1st of May. The past year they started much earlier, and attained a height in the park of about 4 inches, but were all killed down to the ground by an unusually hard frost in April, after which they had to make an entirely new start from the roots, and grew to the height of 14 feet.

On the 6th of July the first crop, then about two months old, was cut for fiber, having reached a height of 5 feet. This crop should have been cut one or two weeks sooner as the few weeks of dry weather just before that time had checked the growth, and receiving a fresh supply of moisture they commenced to branch a little, which injures the fiber more or less. The roots thickening up with each cutting, improving each successive crop, immediately sent up new shoots, and this second crop this year was cut on the 5th day of September and had at that time reached a height of over 5 feet, and was very fine, straight, and free from branches.

It will be seen that the second growth is just as rapid as the first, and when this occurs naturally without forcing, by plenty of rains, or where artificially supplied with moisture in case of drought, to keep up continuous or constant steady or rapid growth, the fiber produced is of a much finer and better quality, and the second or third should be just as good or better than the first growth, as the summer, warm, or even temperature is more conducive to its perfection, especially where much frost occurs during winter or early spring.

Mr. Slaught also procured the privilege to plant a patch of ground in the Agriculture grounds, about the middle of June, 1895, and Mr. Smith kindly had dug up one-half of the old original patch of ramie roots in the Botanic grounds, which were at the time of digging 7 to 8 feet high, and sent the roots and stalks over for Mr. Slaught to the Agriculture grounds, where Mr. Saunders kindly had the ground dug up and Mr. Slaught planted the roots on the 10th day of June, 1895.

The stalks, 6 feet high, after cutting off one cutting at the roots, were bundled up by Mr. Slaught and presented to the manager of the Museum, who put them on exhibition, with a description of where grown, and time of growth, and by whom exhibited, stating where and how the ramie interest was being presented.

Mr. Slaught claims there are a number of fairly good decorticators now in the United States that will do to start with.

INVESTIGATOR.

OFFICE OF THE CALIFORNIA HOSIERY COMPANY,
Oakland, Cal., February 1, 1892.

To whom it may concern:

Having been identified for the past twenty years with the textile industries of this State and during the past years having followed to some extent the various processes that have been invented for the manufacture of ramie fiber, this is to certify that I have examined Mr. S. H. Slaught's ramie fiber and something of his processes for the manufacture of the same and find the fiber to be thoroughly ungummed, of full strength and gloss, and fully believe that it will be practicable to card and spin the same after being separated into its original and whole lengths. It naturally being uneven in lengths, the fiber generally ranging from 2 to 6 inches long, it must, therefore, be either cut or the different lengths separated, as in wool, short lengths to be used for mixing with wool, the longer lengths to be combed and worked like worsted wools, and would therefore be perfectly practicable to be used for upholstery and other expensive goods, imparting to them a gloss and finish which otherwise can only be obtained by the use of silkworm silk, thereby enhancing the value of the goods at a trifling expense. Yet I think it would be practicable to commence the manufacture of the same on the machinery now used for the manufacture of worsted goods, or by cutting into small lengths to mix with wool for cassimeres to great advantage, and would take the place of imported wools, and would far excel them in durability and finish.

PETER T. HOLLINGS,
Former Superintendent San Francisco Pioneer Woolen Factory.

[Cooperative Glass and Industrial Association, D. W. Garrigues, organizer, Woodbury, N. Y.]

PHILADELPHIA, PA., *December 30, 1896.*

MY DEAR SIR: I have just come from seeing our friend Mitchell, of the tapestry mills, and after quite a talk with him over ramie we came to the conclusion—presuming that you still desire to place stock—i. e., that for a given sum to cover the cost and expenses, he will buy looms, set them up in his mill, and make up ramie (you to furnish him the yarns) into napkins, towels, tidies, table covers, patterns, etc., on the line of being substitutes for linen, if you wish samples made of ramie right here in Philadelphia, with the outlook of $2,000,000 sales right here annually, for consumption in Philadelphia markets alone.

There will be no trouble to get stock placed here at nearer par than you want now, to sell at first, viz, 80 per cent for the first $65,000, and at par thereafter, or above par.

Please tell me what you think of it.

Yours, truly,

D. W. GARRIGUES.

S. H. SLAUGHT, Esq.

CRANSTON, R. I., *November 13, 1896.*

S. H. SLAUGHT, Esq.

DEAR SIR: In reply to your inquiry as to the possibilities of ramie-manufacturing industry in this country I would say that in my opinion they are very good, provided that honesty and fair dealing govern its development. There has been too many false claims and misrepresentations in the past to have done any good for the proper development, and again in the pretended ungumming the fiber has been ruined before they were ready for the first stages of manufacture. Events are occurring, I see, by which the fiber can be thoroughly freed from the gum without the ruining of the fiber. Lack of skill in the handling of the fiber, and of knowledge of the requisite machinery required in its successful working, has been another drawback. Under proper conditions, I think, though, that both the skill and machinery can be obtained here in the United States to work the ramie fiber usefully and successfully.

There can be no doubt that the misrepresentations made have caused capitalists to hold back their aid from developing ramie fiber as it ought to be, but I think the greater knowledge to be obtained about the fiber and your work will in a short time prove the value of the fiber to this country.

I believe that Mr. S. H. Slaught is well posted in the work and all the difficulties to be met with, and has the requisite will, judgment, and skill to succeed and overcome them. There does not seem to be enough of the ramie manufactured as yet to begin to meet the demand for it, and they seem to be increasing and producing it in Europe, and why not here?

Very respectfully, yours,

H. A. STEARNS.

Mr. Stearns is an expert manufacturer.

S. H. SLAUGHT.

[The Textile World, Gould & Lord, publishers, 620 Atlantic avenue, Boston.]

BOSTON, *October 23, 1896*

Mr. S. H. SLAUGHT,
Washington, D. C.

DEAR SIR: We note by the daily press that you are contemplating engaging in the manufacture of ramie products. We have in the last few years been especially interested in following the development of ramie manufacture, and would be glad to know by what process and what sort of goods you intend to manufacture.

The great obstacle in the way of success in ramie manufacture seems to have been in the degumming of the fiber. I would be very glad to know if you have succeeded in overcoming this.

There is unquestionably a good sale for ramie yarns in woven fabrics if they can be made commercially profitable.

Hoping to hear from you, we remain,

Yours, very truly,

THE EDITOR.

[The W. J. Hooper Manufacturing Company. Office, Baltimore, 110 East Pratt street.]

BALTIMORE, *December 8, 1896.*

Mr. S. H. SLAUGHT,
Washington, D. C.

DEAR SIR: We are very much interested in the manufacture of ramie, and in fact have made some investigation and find that ramie yarn is being imported and used with great satisfaction. We would like very much to become interested with you with a view of adopting the ramie yarn in our business for fishing purposes, and we are convinced that the ramie will withstand moisture better that silk and other materials now used. We understand that the raw material can be imported at a very small cost and spun here, and at the prevailing prices for the finished yarn show a very handsome profit.

We think your plan of promoting this enterprise is for the best interest of the American public, and feel sure you know what you are doing.

Hoping you will have your machinery started soon, we are,

Yours, truly,

THE W. J. HOOPER MANUFACTURING COMPANY.

The Philadelphia Inquirer, Sunday morning, December 13, 1896, has the following: "Possibly it may be only a question of a few years before the farming methods of this part of the country may be revolutionized and all the farmers grow a plant which now proves a substitute or help for wool and silk. Mr. S. H. Slaught, of San Francisco and Washington, D. C., has spent seven years looking into the subject of ramie fiber, and is undoubtedly the best-posted man in this country so far as that subject is concerned. Mr. Slaught is in Philadelphia, and he thinks there are great possibilities for the fiber of ramie, which is a species of the (thornless) nettle family, and is extensively grown in other countries.

SAN FRANCISCO, *August 2, 1893.*

Mr. S. H. SLAUGHT, *City.*

DEAR SIR: At the mass meeting of July 26, 1893, in referring to a loom invented here, I spoke of your being present and saying it could be used for the weaving of ramie, in all its variety of beauty and usefulness, and the manufacture of many articles that can be made from fiber of the ramie plant. If the production of ramie and the manufacture of the articles that can be made from it is undertaken and carried out here, it will be worth to the State of California more than the entire cost of the fair.

I have no doubt that when the farmers of this State realize that a successful growth and manufacture of the ramie plant in California will equal in value and importance the largest output of any of California's products at the present time, they will not allow this great opportunity to pass without taking advantage of it, and assist in controlling it for the State.

If the managers of the California Midwinter International Exposition can assist you in successfully introducing the cultivation and manufacture of ramie as a result of their efforts in this fair, it will be their justification for the entire exposition.

Yours, respectfully,

IRVING M. SCOTT,
Vice-President Union Iron Works.

UNITED STATES DEPARTMENT OF AGRICULTURE,
GARDENS AND GROUNDS,
Washington, D. C., September 26, 1895.

To whom it may concern:

This is to certify that S. H. Slaught planted a patch of ground here, in these grounds, with ramie roots, furnished him by W. R. Smith, of the Botanic Garden; dug on the 10th day of June, 1895, after they had grown stalks, this year, to a height of 7 to 8 feet, and that said ramie roots have since that time grown stalks here to a height of 6 feet, up to the 1st day of September, and were then loaded with seed blossoms, which are now maturing; and I believe it possible and practicable to grow two or three crops of ramie here for fiber annually, and also that I believe that it will produce as well here as anywhere, in quality and quantity, with proper facilities for irrigation—when it is necessary.

WILLIAM SAUNDERS,
Horticulturist, etc.

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23 BROAD STREET, NEW YORK, *March 23, 1895.*

S. H. SLAUGHT, Esq.,
The Normandie Hotel, Washington, D. C.

MY DEAR SIR: I hope, not only for your sake, but for the sake of California, you will be able to get the ramie fiber in working shape before long; and, if I were twenty-five years younger I would go into it myself, not only for the sake of what there would be in it, but for the sake of starting the new industry in California. There are plenty of intelligent people in California who, if they could only be impressed with the importance and magnificence of ramie, would, I think, be ready to take a hand in its development. From what I have seen of it, I believe it would be a great industry for the State.

Yours, very truly,

C. P. HUNTINGTON.

OFFICE OF THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA,
Washington, D. C., January 8, 1895.

The Commissioners of the District of Columbia have had an interview with Mr. S. H. Slaught, the president and manager of the Ramie Fiber Silk Manufacturing Company of San Francisco, Cal., and have been greatly interested in his showing with regard to the possibilities of the plant if grown in the vicinity of Washington and manufactured into ramie products, and they express the hope that the citizens of the District generally would take an interest in the matter, with a view of furthering the growth and manufacture of the ramie product.

[Stoddard, Haserick, Richards & Co., Bradford, England, and Boston, Mass., foreign bankers and importers of textile machinery. Colonial, English, and carpet wools, Egyptian cotton, etc.]

BOSTON, MASS., *November 9, 1896.*

Mr. S. H. SLAUGHT.

DEAR SIR: In reply to your inquiry respecting the manufacture of ramie in this country, we beg to say that though we are conversant with nearly every branch of textile manufacture, we know of no successful attempts to manufacture this material in the United States, although we see no reason why, with proper management, it could not be made a success.

Respectfully, yours,

STODDARD, HASERICK, RICHARDS & CO.

UNITED STATES BOTANIC GARDENS,
Washington, D. C., January 4, 1895.

DEAR SIR: For thirty-five years I have been convinced of the fact that there is a great opportunity for the cultivation of ramie in the South.

It grows from 10 to 12 feet high in our seasons, in the United States Botanic Garden.

Some one must do for ramie what the cotton gin did for cotton, that is, to get it ready for the markets cheaply.

Respectfully,
WM. R. SMITH,
Superintendent United States Botanic Garden.
Per R.

Mr. S. H. SLAUGHT, *Normandie Hotel, City.*

No; a market must be made by manufacturing at home; I have the processes.

I was not satisfied with this letter and wanting more explicit facts, wrote them out in the following, and Mr. Reynolds, assistant superintendent, believing and approving it, got Mr. Smith to indorse and sign it for me.

S. H. SLAUGHT.

UNITED STATES BOTANIC GARDEN,
Washington, D. C., January 21, 1895.

DEAR SIR: As per your request for a statement from me as to the matter of ramie, I would state that, in my judgment, ramie will produce two crops per year in Washington for fiber, maybe some years three crops (as you say) when grown thick on land not too rich so as to mature soon enough. But to produce seed, of course it must grow and ripen all summer, to fully ripen up the stalk, so that only one crop could be grown for that purpose.

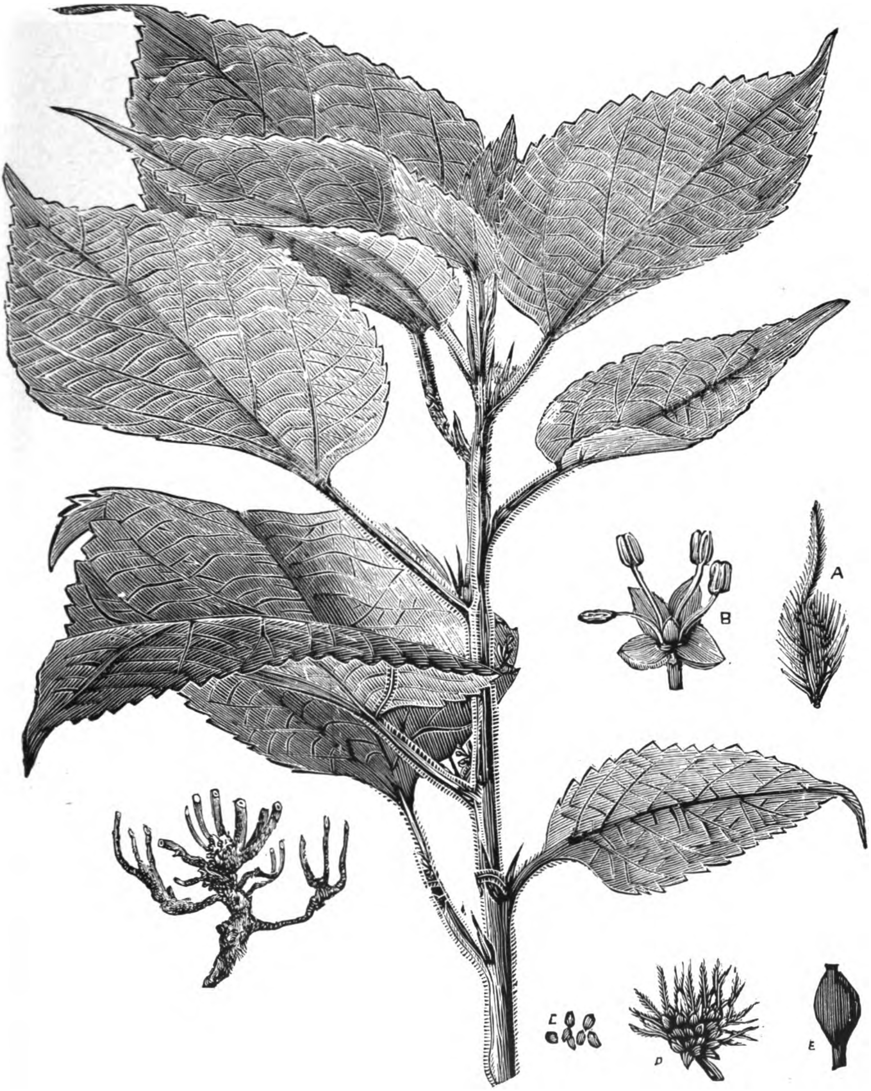
Respectfully,

W. R. SMITH,
Superintendent United States Botanic Garden.

Mr. S. H. SLAUGHT,
Washington, D. C.

There have been so many failures and such unnecessary delay in a matter of so much profit to our farmers and people of all classes that I feel sure the hardest part is in getting everybody to fully understand it. Because we have had failures and incompetent management is no excuse for not accepting the truth now and profiting by intelligent management for the whole people. This matter should receive the most prompt attention from this House by passing the proposed bill, or to establish at least three stations to demonstrate and promote ramie culture and manufacture—one here, one South, and one on the Pacific coast; certainly one to start with here. The start in the ramie alone will help to start or develop silk and flax. The Northwest needs the flax industry. The whole country needs them all.

S. H. Slaught,
Exhibit Office, *St. NW., Room 66,*
Maltby (Senate Annex).

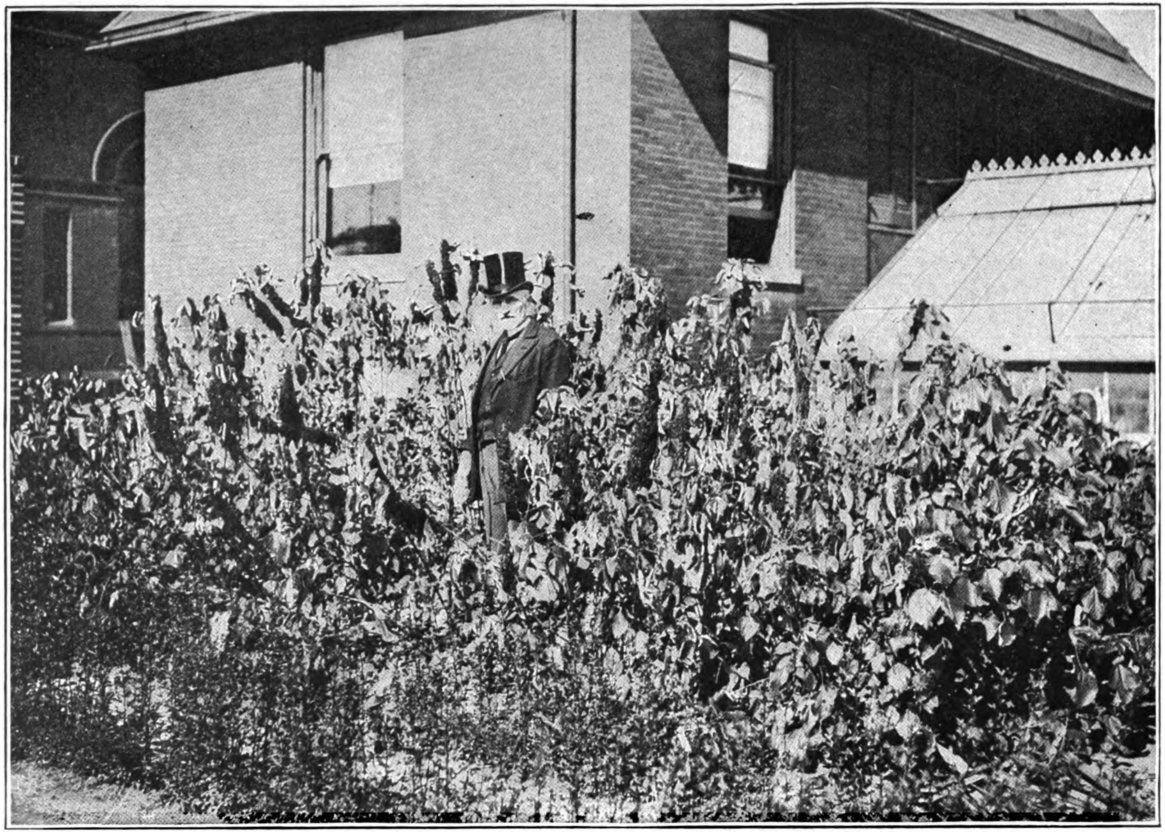


A TOP OF STALK OF RAMIE IN FULL LEAF.

A, B, D, E, blossoms and seeds greatly magnified. F, natural seeds of the largest specimens; the best seeds are much finer; very fine.

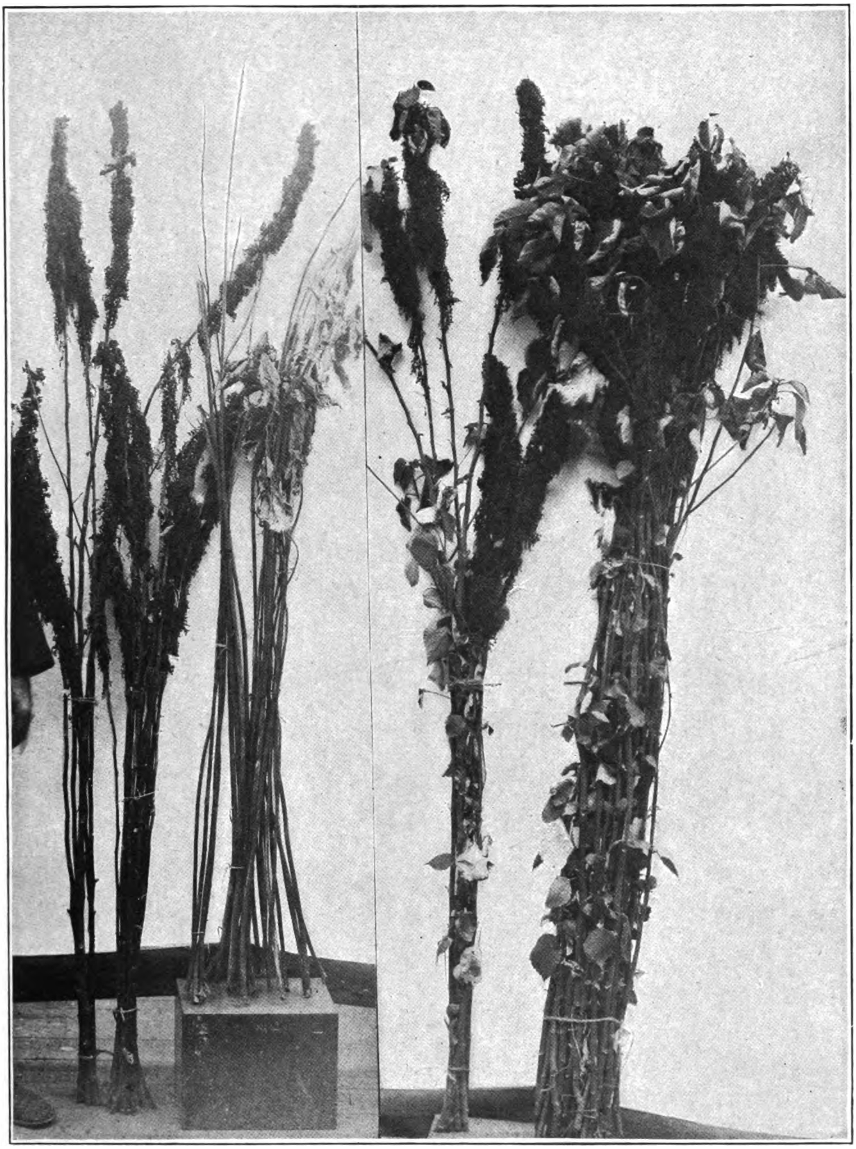
Address, any time, general delivery, post-office.

S. H. SLAUGHT,
President and Manager Ramie Fiber Silk Mfg. Co.,
San Francisco, Cal., and Washington, D. C.



SECOND AND THIRD CROPS OF RAMIE PLANTS AFTER JUNE 10, 1895. GROWN IN WASHINGTON, D. C., BY S. H. SLAUGHT.

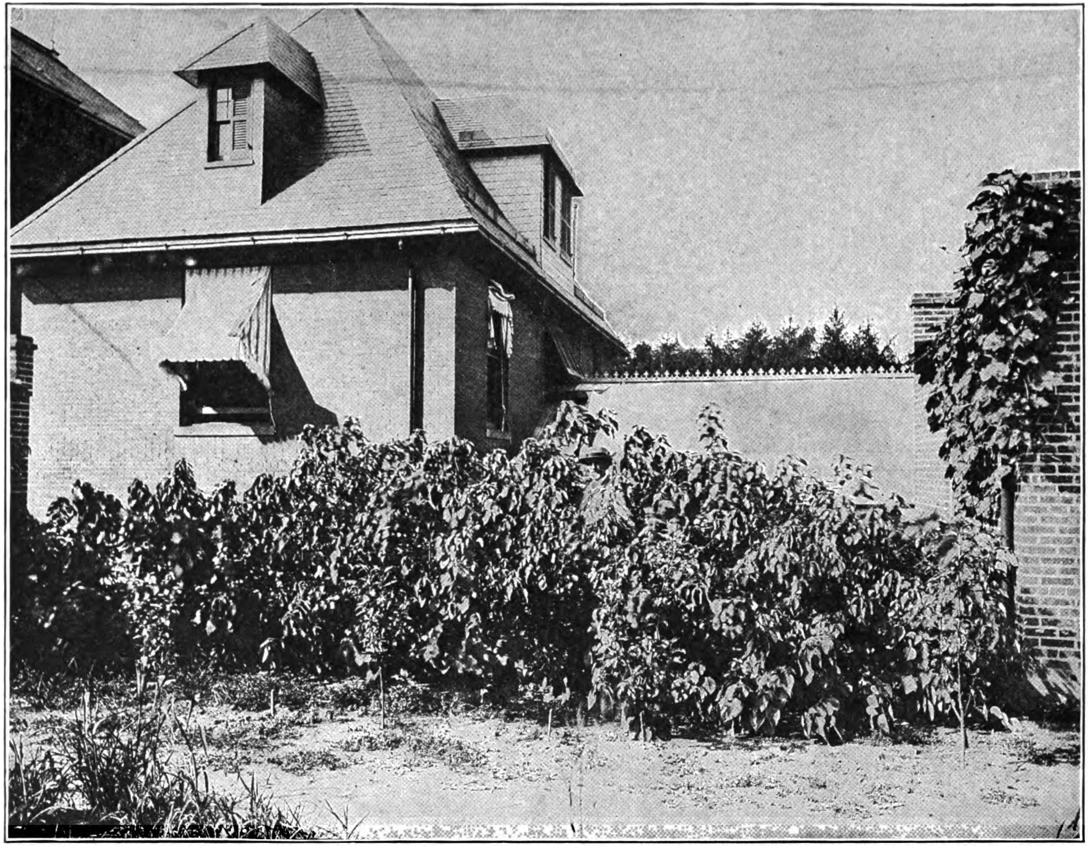
After a growth of 7 to 8 feet in Botanic Garden the tops were cut off, roots dug up and replanted in Agricultural Grounds on June 10, and one end layered in July when 3 feet high for third crop. These crops were 4 and 6 feet high September 1, and cut 5 and 7 feet high, ripe for seed, **October 23, 1895.**



1 2 3 4 5

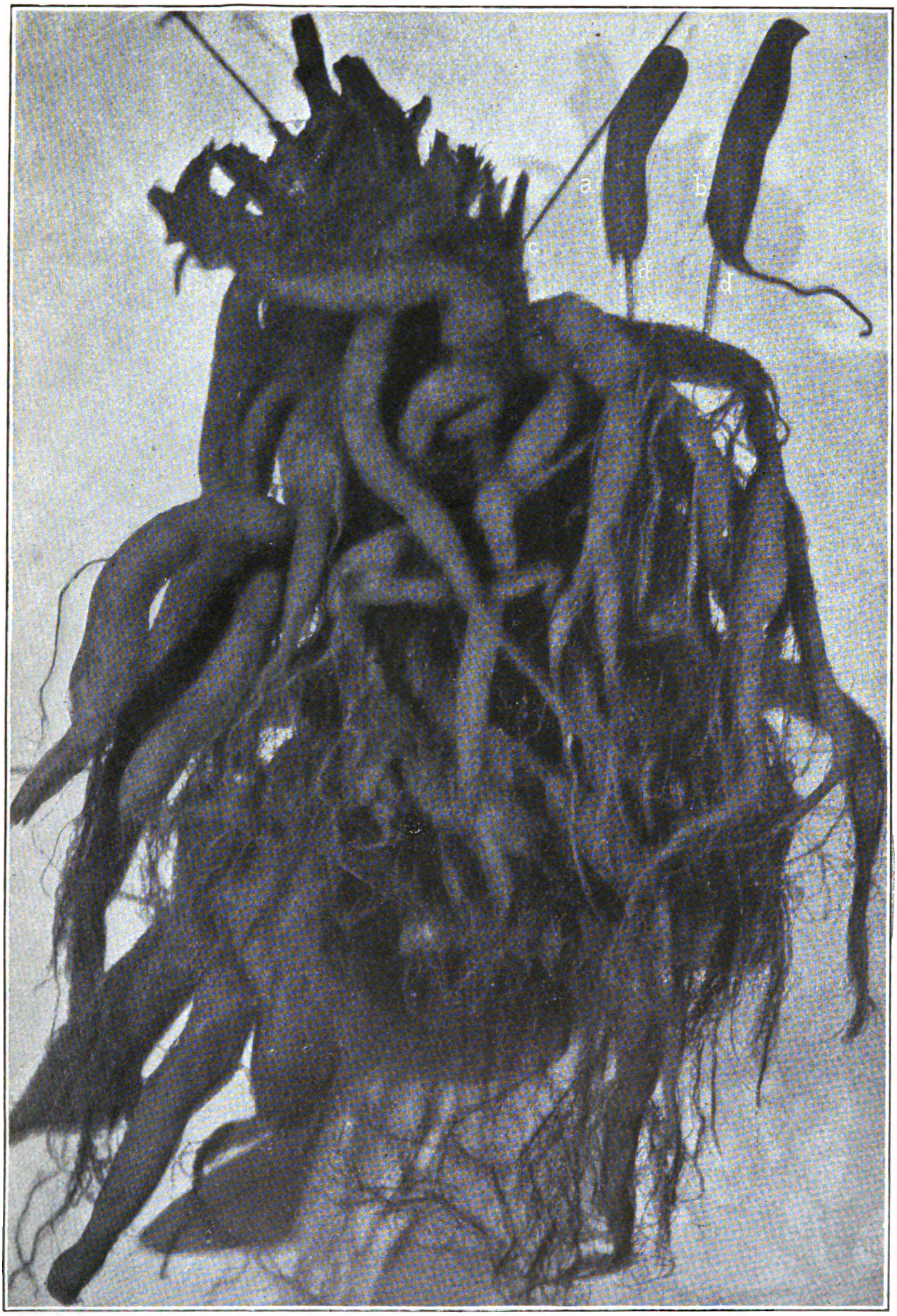
THREE CROPS OF RAMIE IN ONE SEASON IN WASHINGTON, D. C.; SECOND AND THIRD RIPENING SEED.

1 and 5, second growth of ramie planted from roots dug in Botanic Garden after growing a crop, 3 7 to 8 feet high (one cutting off of butt ends height of box), planted in Agricultural Grounds June 10, 1895. When the patch was grown to about 3 feet high, one end was layered and grew the third crop; 2 and 4, ripening seed, October 23, 1895. 3, one crop to June 10, 7 to 8 feet high. 1 and 5, second crop, from June 10. 2 and 4, third crop, 1895, and from layers of second crop when 3 feet high.



RAMIE PLANTS, REPRESENTING GROWTH FROM FIRST PLANTING, SECOND YEAR. GROWN IN AGRICULTURAL GROUNDS BY S. H. SLAUGHT.

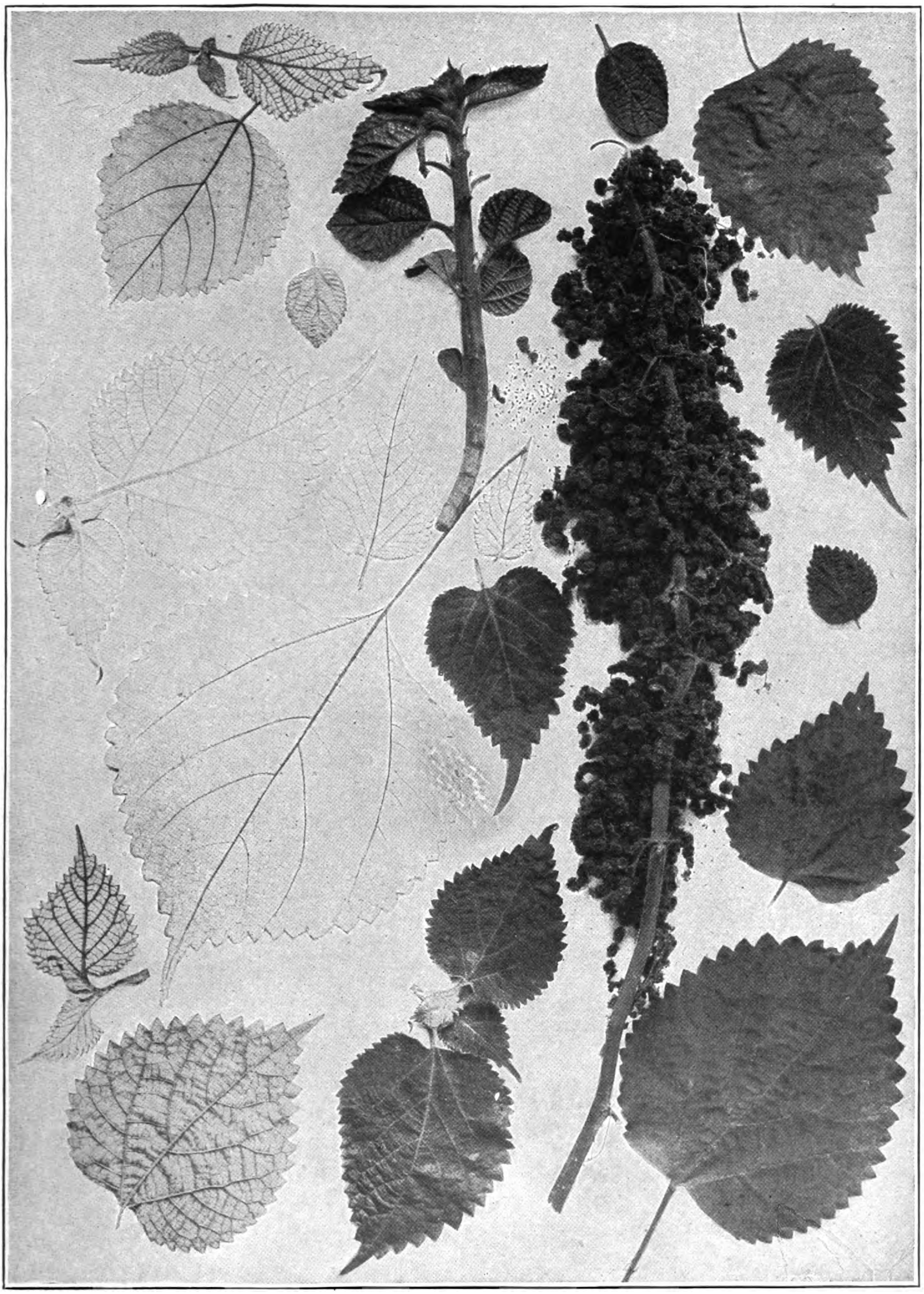
Cut ripe for seed October 1, 1896, and now on exhibition at company's office,   street NW.



RAMIE ROOT, FROM SMALL SEED, IN TWO YEARS, IN WASHINGTON, D. C.

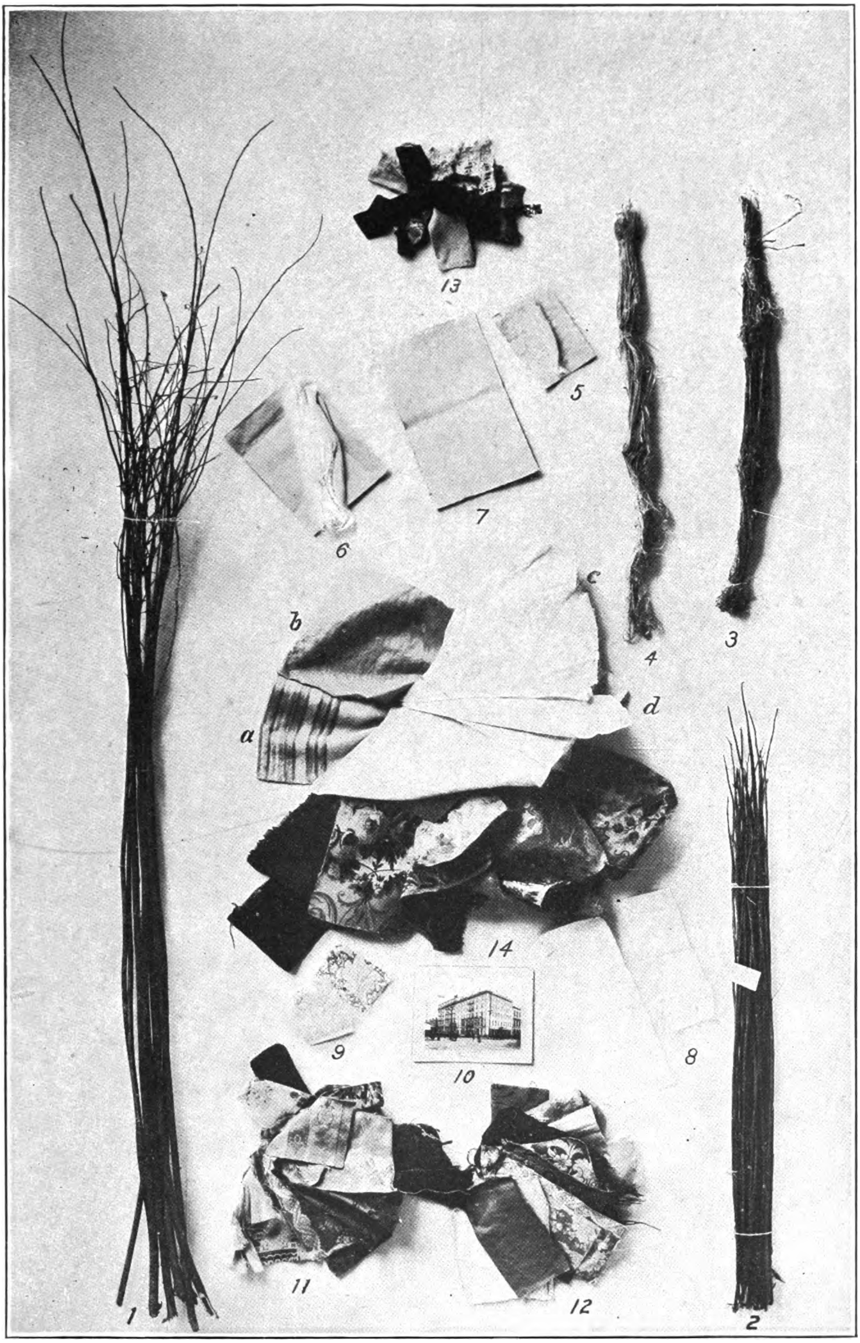
Dug in the United States Agricultural Grounds by S. H. Slaught, and photographed on the 24th day of March, 1897, having had absolutely no mulching or artificial protection all winter, or at any time, and was alive and sound, ready to sprout and grow from the surface of the ground. It was disturbed by being moved carelessly out of the way last summer, too. The rest of the patch had a very light mulch of light manure last winter, the first and only one in two years, and is growing since this was dug, and is now over 6 inches high—April 4, 1897. This root was, as cut off at the bottom, when being dug, 15 inches long and 9 inches wide. *a*, *b*, are two root cuttings supported by wooden pegs *d*, *d*, to show the proper sized cuttings of the roots to plant—2¼ and 3 inches long, ¼ inch in diameter. *c*, surface of ground when dug.

Scale: 5 inches to 1 foot.



These leaves and small stem at top of plate were all fresh, green growths up to April, 1897. The stem was 6⅛ inches high, growing in the open ground, United States Agricultural Park, except the one largest leaf, 4⅛ by 5½ inches, which was dry from summer of 1896. The light color represents the underside and the dark ones the tops of the leaves. The small, pointed ones are from the very top of stems. The long stem of ripe seeds is from last fall's crop, and had about one million seeds on it, which have shelled off at every move, and now contain fully one-half million seeds, each ball representing over one hundred. The detached balls, one whole and the other scattered between the two stems, represent the size of seeds; of course, a little reduced, really, but not fully separating them, shows two or more together, thus apparently, of some of them, augmenting their real size.

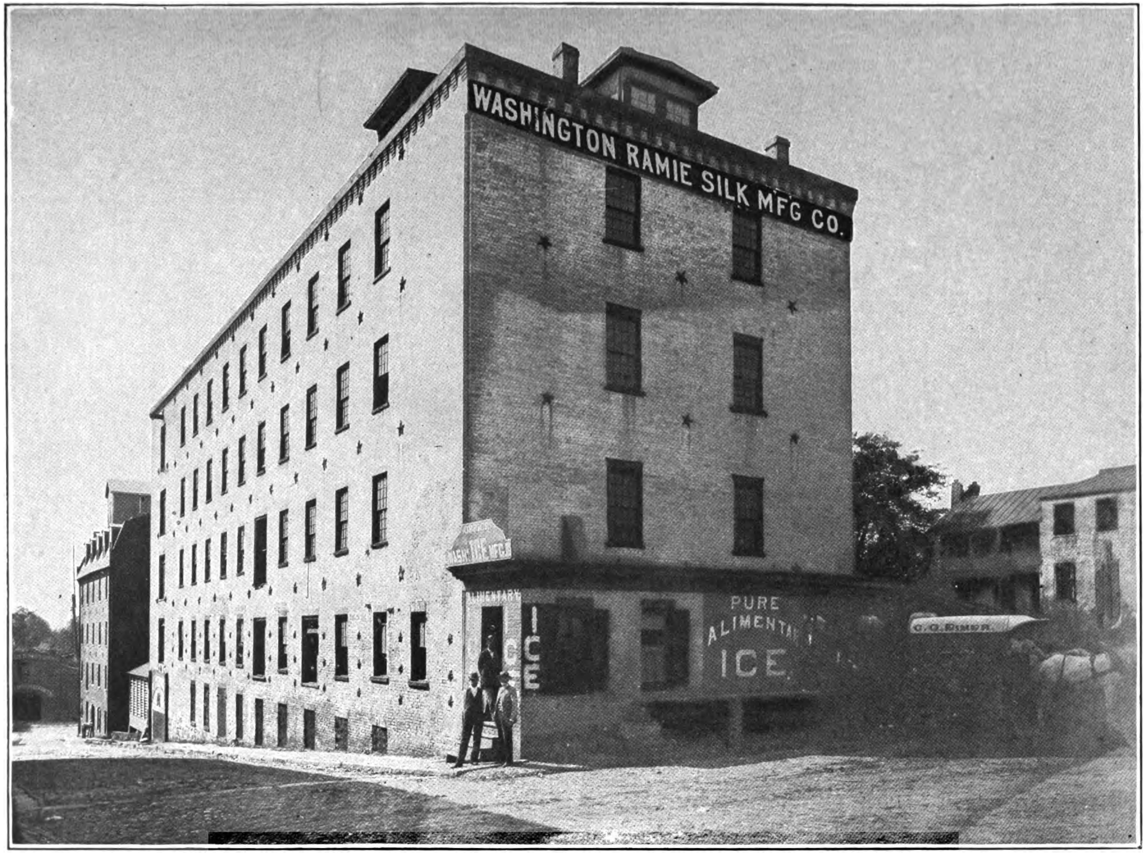
Scale: 1 inch to 2½ inches.



PARTIAL SHOWING OF THE RAMIE EXHIBITION AT STREET NW., BY S. H. SLAUGHT.

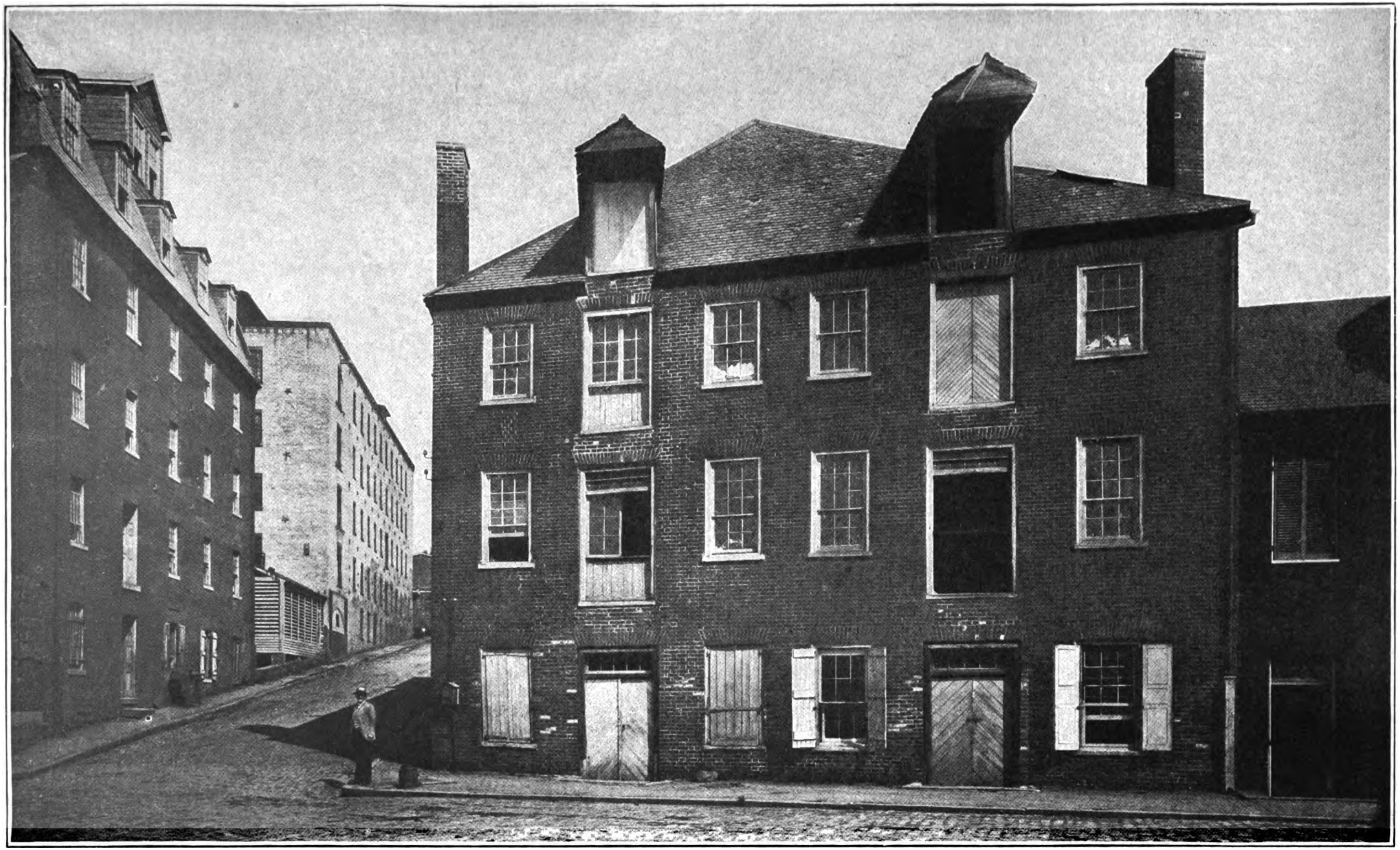
No. 1, full season's growth, 10 to 11 feet high, for seed, 10 to 15 per cent coarse rusty fiber. No. 2, two months' growth for fiber, 35 stalks, 5 feet high, 30 to 50 per cent fine strong fiber. No. 3, crude decorticated fiber. No. 4, cleaned after decortication. No. 5, 6-inch staple ungummed combed ramie fiber. No. 6, 6-inch staple (sliver) fiber, spinnable. No. 7, section of pure ramie, *Defender* sail, 9 by 15 inches. No. 8, two pieces Chinese handmade, stiff ramie, cheap cloth. No. 9, ramie printed like calico. No. 10, Riggs House, opposite Treasury, where free exhibit was to be seen. Nos. 11, 12, 13, and 14, a great variety of ramie and possible mixed ramie goods. *a*, ramie woolen blanket; *b*, plain pure ramie for men's suitings for summer; *c*, plain pure bleached ramie, Marseilles suitings and vestings; *d*, ramie napkins and table goods.

Scale: ⅛ inch to 1 foot.



CONTEMPLATED RAMIE FIBER SILK MANUFACTURING COMPANY, WASHINGTON, D. C.

Storehouse on opposite corner, with magnificent water power cheap and electric power within a block cheaper. Mr. S. H. Slaught, president and manager of the company, has made arrangements to secure all this by large payments in stock of the company. No cash needed for this purpose.



Contemplated ramie factory on Potomac street, Washington, D. C., looking across Water street through Potomac street to the rear of the factory, secured by S. H. Slaught, president and manager of the Ramie Company, the lower part of which is occupied by the ice company, who will lease for eight years at $2,000 a year. The full-front building on Water street is a paper mill, now in full operation, with new machinery that should be utilized to work up the refuse fiber and wood into bond and bank note and other high-priced paper, by the pound, for the Ramie Company. Baltimore and Ohio Railroad tracks are laid on this street.

THE CHINA GRASS—ITS HISTORY AND USES.

[By George C. Schaeffer, M. D., United States Patent Office Report 1855, p. 222.]

By the praiseworthy exertions of Mr. W. R. Smith, of the public conservatory in Washington, there is now afforded an opportunity of ascertaining how far the China grass (*Bœhmeria nivea*) can be successfully cultivated in the United States. There seems to be no difficulty in multiplying the plants, and none in obtaining them in the condition in which they yield the fiber of commerce. This being the case, it is proper that some notice of the history of the plant and its product should be furnished for the information of those who may feel disposed to attempt its cultivation.

China-grass cloth has been known as an article of commerce for many years, but the plant furnishing the material was only identified about the commencement of this century by Dr. Roxburgh, whose labors in bringing to notice the fabrics of the East are only now beginning to show their effect upon commerce.

The *Bœhmeria nivea*, formerly known as Urtica nivea, belongs to the nettle family, every subdivision of which abounds in fibrous plants. Dr. Roxburgh described it under the name of *Urtica tenacissima*, from the specimens obtained in Sumatra; and subsequently he learned that this was the plant yielding the famous "China grass." More recently the identity of the Chinese and Indian plants has been determined beyond dispute. From this wide diffusion throughout the East this plant is known under various names, such as "cha," or "tchou ma," in China, "caloee" in Sumatra, "ramee" in Malay, and "rheea" in Assam. Gradually increasing in commercial importance, this product only obtained the notice of the public generally at the London Exhibition of 1851, where it was presented in every condition, from the crude article to the woven fabric, showing a fiber of such beauty and strength that three prize medals were awarded to different persons for specimens in the prepared state. Samples of these, now in the collection of the United States Patent Office, I have submitted to examination, the results of which will be given below.

Of the value of this fiber I can give no better evidence than the statement of Dr. Royle that, as imported into England, it has "sold for £60 to£80, and even for £120 a ton." In some parts of India the plant is only cultivated in small quantities by the fishermen for the manufacture of their nets, lines, etc. The use of the fiber for cordage is likely to make its cultivation an object in this country; but the great strength, which especially fits it for this purpose, may be noted. Various samples, tried against the best Russian hemp, show that it bears a weight sometimes nearly double and always much more than that borne by the hemp. In China and elsewhere it is mainly employed for making the grass cloth, the softness and strength of which give it a character distinct from that of the fabric of any other fiber.

Generally, three crops are taken a year, at intervals of about two months.

It may be noticed that the fiber of the plant, which has grown wild, has also been sent to Europe; but this, as might be expected, is much coarser than the cultivated product.

The specimens of the crude material examined were those above named, obtained from the London Exhibition of 1851, and others kindly presented by Joseph Balestier, late commissioner to Cochin China, etc., which were also accompanied by the plant itself, obtained by him in Java.

The chief difference in the specimens is in the color, which, in the Java plant, is lighter, with a tendency toward green and with somewhat more of a gloss.

The half-bleached and full-bleached line and tow as received from London were compared with the best specimens of English, French, and Belgian flax, from the same exhibition, which last, as usual, were unbleached. A very slight examination at once shows the remarkable difference between the two materials. The filaments of the flax line, although very fine, showed the ends of the component cells, which, on repeated handling, separated from each other. (This shows that their bleaching was not ungumming.) The filaments of the China grass, on the other hand, although they have been subjected to the process of bleaching, showed no such loose ends, and after long-continued manipulations still remained smooth, glossy, and apparently single celled. To be certain on this point, specimens, after boiling in an alkaline solution of a strength which would insure the separation of the individual cells (fully ungummed), were repeatedly passed back and forth between the fingers and then carefully examined from end to end under the microscope. Every effort was made at all doubtful points by needles to obtain a separation if possible. As evidence of the care bestowed upon the examination it may be stated that from one to two hours were more than once expended upon the scrutiny of a single fiber. The result of this close inspection was the development of the fact that the single cells of the line of the China grass are of an extraordinary length, often equal to and sometimes far exceeding that of the longest of which we have any record. Five, six, and seven inches seem to be not unusual lengths. In one case a filament of over 10 inches in length was severely handled without showing any signs of being composed of more than one cell, but in this case the microscope was not used. Even the tow (the separated short cells, wool-product substitute) of the bleached fiber furnished in abundance single cells or fragments 3 inches or more in length.

We are now prepared to understand the great strength of the China-grass cordage, as, in any given length, it has fewer breaks of uninterrupted continuity than any other fiber. The character of the single cells is as follows: In diameter they exceed those of fine flax, of which, however, many are required to make a line of equal strength. In cross section they are irregular, and the greatest diameter is found sometimes in one direction and sometimes in another, somewhat after the manner of cotton. This gives them an advantage in spinning, furnishing a better hold of the fibers upon each other than if circular in section.

It is said that specimens of the oriental fabric have been examined in which the thread was untwisted, being made up of long filaments (not ungummed threads) joined end to end by some glue or cement. We know that this is true of the celebrated "pigna," or "pina," a fabric made from the pineapple fiber, and the facts above named show that it may be also true of the China grass. This untwisted thread gives a peculiar transparency to the fabric which can not be imitated. No attempts have ever been made in Europe nor in this country to reproduce such an article, which probably requires too much manual labor to be profitable. The full-bleached (ungummed) line above mentioned is remarkably glossy and soft, and in some respects is not unlike silk in appearance. The whole character of the fiber is so distinct as to prevent any mistake as to the recognition of the article.

Although we have no mention of the employment of the tow (short cells for wool product), there can be no doubt of its applicability to the manufacture of an excellent fabric. The fiber obtained by different cultivators can be transmitted to the Patent Office for examination. In order to have a long, fine fiber the crops should stand pretty close, and when in small patches (for experiment), it should be surrounded by other plants of a similar height, in order to have the whole yield of the same quality. Or, the exterior plants may be used for propagation, leaving only the tallest to be tried for their fiber.

[Patent Office Agricultural Report, 1867, p. 247.]

CHINA GRASS.

The nettle of the East, Bœhmeria tenacissima, vulgarly called ramie, and by other local names in different districts of southern Asia and the islands adjacent, has excited much attention in the Southern States since its introduction there by M. Roezl in the spring of 1867, though it was first introduced into the country in 1855 from the botanical garden of Jamaica, and cultivated in the United States Botanical Garden and subsequently in the experimental garden of the Department of Agriculture. It was there grown from seed, a fact that should be mentioned, a general impression having been received in the South that it is propagated only by cuttings.

The high price of cotton, and the disturbance of the economy of its culture by the results of war, have given an absorbing interest to the feasibility of substituting ramie fiber for the Southern staple, and led to thousands of experiments which they otherwise never would have undertaken. The Commissioner of Agriculture, to afford an opportunity for a thorough test of a fiber of superior strength and great luster and beauty, has imported from Paris for trial in

1868, seed of the *B. tenacissima*, and also of the *B. candicans*. These seeds have been distributed, and many reports have been received by the Department of their failing to germinate, and yet the failure attaches to the experimenter, and not to the seeds, as portions of the same importation, in every instance of trial by the Department, germinated readily. The seeds are very small and require slight covering, and being very near the surface, need protection from the rays of the sun, as well as the right degree of moisture.

ACCLIMATING TESTS IN OTHER COUNTRIES.

The history of its introduction in Europe has some curious features. Sir W. J. Hooker was early interested in the experiment at a period when little was known of the plant that produced so beautiful a fiber. He identified the *B. nivea* and *B. tenacissima* as really the same species, and sought to introduce the fiber into Great Britain in large quantities and to encourage its systematic production in British colonies with the hope of reducing the price which it had commanded (from £60 to £120 per ton) to a figure which would encourage its general manufacture. In 1851, referring to plants then growing in the royal gardens at Kew, he says:

"Long previous even to the time when the commercial importance of the fiber became known among us we had raised this plant and had it in cultivation in a hothouse or in a warm greenhouse. The present year we have planted it in the open ground, rather with a view of showing that it can not succeed than with a hope of its bearing our climate unharmed save during the hottest of the summer months. But this is no reason why the Chinese grass should not be cultivated, and advantageously, in our colonies—that is, such of our colonies as possess a climate nearly analogous to that of Canton; and we can not doubt that it would, with due care, prove a most valuable and important article of export. It is only a true and correct knowledge of such plants and of the peculiarities of soil and climate necessary for their being successfully reared that can enable us to grow them to good purpose."

For sixteen years this recommendation was practically unheeded, but official action was finally taken in consequence of a communication to the United States Department of Agriculture by one of its foreign correspondents, George J. Abbott, esq., United States consul at Bradford, England, which was made public in the annual report for 1865 in a practical essay upon this plant and its products. Specimens of the manufacture sent by the same gentleman were at the same time deposited in the museum of the Department. The fact was stated that considerable quantities were produced in China, but that the civil war there had interfered with the producion, as civil war in this country had reduced the yield of cotton; that it was then worth in England £80 per ton, and that it might perhaps be profitably grown in the Southern States and its production become a valuable addition to American industry.

ITS CULTURE IN CHINA.

In China the seed is gathered very carefully before the approach of frost, and when sufficiently dry is placed in a jar or basket mixed with sand and dry earth, and the vessel covered with straw as a protection against the frost. At the time of planting they are tested by immersion in water, the imperfect ones floating at the top.

The proceedings of the Agri-Horticultural Society of India gave an idea of the mode of culture and means of preparing the fiber. A loose, dry soil is selected near a stream. The ground is well broken and manured, and laid out in beds 8 yards long and 1 wide, which are carefully raked and watered one day, and the same processes repeated on the following day, preparatory to sowing. The seeds are then mixed with a little dry earth and sown broadcast, and afterwards the beds are swept lightly with a broom, covering the seeds and smoothing the surface at the same time. Matting is suspended on a temporary framework over the beds before the plants emerge from the soil for protection until the plant is 2 inches high, and this covering is watered every day and removed at night. When 3 inches high, they are transplanted in rows 4 or 5 inches apart; watering is continued three or four times daily for the first ten days, when an occasional wetting suffices. At the approach of cold weather the field is covered with a heavy coating of manure for winter protection. In March the manure is removed and watering in dry weather resumed. In the third or fourth year, as is stated, the stems are ready for cutting, and sometimes in the second year. If grown from roots (cut in pieces and planted 18 inches apart), they are ready for cutting the second year, and after a plantation is established three crops per year are secured.

The stems are cut an inch from the surface, the first cutting occurring in June and the last in September or October, the stems being 6 or 8 feet high. After cutting, the plants are covered with manure and watered.

The first step in preparing the fiber is the stripping of the leaves by women and children. Then the stems are soaked in water and afterwards broken in the middle, thus loosening the fibrous portion, when the finger nails are inserted between the bark and stem and passed off from top to bottom, separating one-half the fiber. The remaining fiber, after further soaking, is taken off with a rudely made knife with a blade about 2 inches long. This rude implement is held in the left hand, its edge, which is dull, is raised a line above the index finger; strips of hemp (or fiber) are then drawn over the blade from within outward, and being pressed upon by the thumb the fibrous portion of one surface and the mucilaginous part of the other are thus taken off. The hemp then rolls up like boiled tendon. After being wiped dry it is exposed to the sun for a day and then assorted, the whitest being selected for fine cloth. It is then bleached by boiling and drying in the sun, when the tedious process of separating the individual fibers with the finger nails is dexterously accomplished by women or children, leaving the material exceedingly fine and soft, and afterwards a further bleaching is secured by soaking in water with a little lime or the ashes of mulberry leaves. During the bleaching process the fiber must be dry, as moisture will give it a dark color.

CHINA GRASS FIBERS OF COMMERCE.

The China grass cloth has long been known to commerce, and the fiber was many years since brought to Europe, where it attracted the attention of manufacturers for its fineness, strength, and beauty. It was found to be stronger than hemp, with the luster of silk. At the British International Exposition of 1862 several specimens from India, Assam, and Malacca were exhibited. The report of that exhibition referred to these samples as attracting more attention than any other products of India, and stated that the late experiments had shown that the fiber was susceptible of manufacure of great variety of useful and valuable fabrics.

At the same exhibition samples were exhibited bearing the name of *Bœhmeria nivea*, a fiber believed to be identical with the *B. tenacissima*, of the same commercial value, although represented as botanically a different species. The plant flourishes at Derjeeling and other places in the north of India.

The Neilgherry nettles (sometimes written Nilgiri nettle) *Urtica heterophylla*, abounding in the hills of that name in India, possesses a fiber used for similar purposes, sold at the same price, and is sometimes included with China grass fibers. It has been called "vegetable wool," is abundant in a wild state, and it is assumed that its cultivation would be profitable.

The bark of the young wood steeped in water twenty-four hours renders easy the separation of the fiber. The nettle is one of the most formidable of the stinging tribe—a fact which might militate against its utilization. The Technologist says that "the fiber is brilliant and strong, easily separated, regular in fineness, from 6 to 8 inches in length, of good natural whiteness, similar in fineness to the coarsest mohair, much twisted, generally flattened at the root end. The last peculiarity is a defect; otherwise it is a fiber perfectly adapted for spinning with coarse combing wools. It seems to be especially applicable for fabrics where bright stiffness is the quality desired. It dies in a similar manner to China grass, but does not possess equal brilliance, strength, or whiteness. If it were forced on the market, it would immediately take a position as a combing fiber, probably second only to China grass. It is reported to be obtainable in abundance, but the plant is a formidable one to manipulate."

The *B. candicans*, of which seed has been imported from Paris by the Department in 1855, is thus characterized by Prof. George C. Shaeffer, librarian of the Patent Office, a well-known expert in fibers, in a note to the editor of this report.

"The *Bœhmeria candicans* was first brought to notice in England at the exhibition of 1851, when, according to Royle, 'a prize medal was awarded for some beautifully white and silky-looking fiber sent by the Singapore committee from M. Weber, of Java, as the product of a plant which he called *Bœhmeria* *candicans*, and also *Linum usitatissimum* [but this is the botanical name of our own flax] on the same label. The former is probably another name for our plant [he is speaking of the *B. nivea*], as it is said to be the ramie or ramee of the Malays. The plant is cultivated by the Dutch in Java, and its fiber has been introduced into Holland, and gold medals awarded to Messrs. Meerburg, of Leyden, for specimens of sailcloth, ropes, cables, etc., and also for some finer kinds of cloth and tablecloths. The plant producing this fiber was called *Boehmeria candicans* and also *B. utilis* by Professor Blume, but it is probably only a variety of *B. nivea*, or perhaps a nearly allied species.'

"From this it will be seen that the *B. candicans* is the plant—a specimen of which I have from Mr. Ballestier—gathered by him from a Dutch plantation in Java, and which he called 'ramee' and said was identical with the China grass. This, if at all different from the *B. nivea*, is the plant cultivated by the Dutch in Java, named by Blume, and by him introduced into France. It is, therefore, the same as that 'pushed' by Roezl, the Austro-Belgian botanist of Texas, which he says can not be raised from seeds. But it is to be remembered that in his elaborate display of synonyms he omits this very one of *B. candicans*.

"Of course it will be worth while to carefully distinguish in the culture of this plant and establish the fact whether it can or can not be raised from seeds, and whether it is essentially distinct from the *B. nivea*. It should be borne in mind that it was shown in Holland mostly in the form of the coarser fabrics."

WASHINGTON, D. C., *January 4, 1897.*

I would say that at the time this article was written the editors could not be expected to know everything about it, and therefore I want to say that they used the word bleach as though that prepared the fiber as ungum. Bleaching is not ungumming. The Chinese bleach in cleaning to some extent. This writer also seemed to suppose that decorticating prepared fiber for use as carding and spinning. The Chinese decorticate, clean, and bleach for hand use without fully ungumming, while we must fully ungum without bleaching for machine use. They tried in the South to compete with cotton, and failed then when cotton was 19 cents a pound in Europe cleaned for use, and now it could much less be done with cotton in the rough here at 5 cents. It is not adapted to compete with cotton at any price, but with wool, camel's hair, alpaca, or silk, worth from 60 cents to $4 or more a pound prepared for use. Their ramie was brittle then because bleached in the gum. If ungummed, it is soft and fine, and when ungummed, can be worked into the finest or heaviest fine goods of great value by machinery. Partially ungummed bleached ramie fiber can not be worked into anything but coarse, harsh shoddy by machinery, and there would be no profit in it to this country that way. I only copy this article to show how the industry failed at that time.

Yours, respectfully, S. H. SLAUGHT.

EXHIBITION OFFICE, *St. NW.*,
Room 66, Maltby (Senate Annex).

Mr. Gear presented the following

PAPERS ON THE RAMIE INDUSTRY AND ITS PROMOTION IN THE UNITED STATES, BY S. H. SLAUGHT, WITH ILLUSTRATIONS.

WASHINGTON, D. C., *March 24, 1896.*

DEAR SIR: In order that you may fully realize and know the full importance of my request for an appropriation from the General Government for the promotion of the ramie and silk industries in the United States, I will say, as briefly as possible, that there has been many thousands of dollars expended in trying to promote it, and capitalists are diffident about investing; and then, on account of my ideas of making it a national industry, for and by the people, they naturally do not wish to spend their money to develop it, except all for themselves, and that is the reason that they should have assistance, and I am asking Congress to help me to make the necessary demonstration for and with the people's cooperation.

My object is to get the public to take hold of and promote it, or, rather, to go largely into the business. What I am asking of the Government is to that end—not only to help us to what is naturally spent (wasted) in starting any new enterprise, but especially manufacturing textiles. As all know, many even fail in the attempt. The bonus that I am asking of the Government, the public feel, is not only necessary to start it, but that it will be a sure and certain success if the Government is back of it. Then, everybody is willing to subscribe his mite, and that is what we want. I do not want a life position in the Government employ or to make a political position, but only what is necessary to make a great industry for our country and all get the benefit from it as soon as possible; at least in three or five years to make it worth several hundred millions annually in savings, as well as prevent that amount going abroud annually—in gold, too—and to benefit the farmers (which benefits everybody), all business, and the whole country. Then, the employment of labor and skill in this and the factories benefits all again. And these goods can be made at home for half the money sent abroad for them now—$100,000,000 annually—thus in four ways benefiting every man, woman, and child, rich or poor, high or low. I want it to be a ramie industry—to make ramie goods as ramie—as well as American, and that our boys and girls shall have the benefits of the trades it will offer, and that they can commence in it young, in connection with their college education.

Now, for this purpose I want six stations for silk and ramie, $5,000 a year each, and $100,000 extra for each of three of them the first year. If not three, which is best, and will pay and do most good, and the soonest, then at least one of them, with one agent for them all at $3,000 a year and traveling expenses, and one assistant for each at

$800 per annum each. But for the principal ones, or one, at $1,200 per annum. This much is only the starting or encouraging—the confidence part of it. I propose to establish companies and get all the people interested I can by bonuses and subscriptions, having the companies manage the business safely to all, and thus get the country into a large controlling business of the ramie and silk industry of the world in as short a time as possible, the Government part of it all being done through the agent, he employing the company under the authority of the Government to do the work for the agent safely in a business way, thus putting every dollar in the advancement of the business successfully launched and going ahead. I do not want this over and over in politics, nor do I want to be connected with any failures.

Yours, most respectfully,

S. H. SLAUGHT.

Hon. JOHN H. GEAR,
Chairman Subcommittee on Agriculture and Forestry,
United States Senate.

VENTURA, CAL., *June 25, 1891.*

MY DEAR SLAUGHT: I am glad to know that your persevering efforts to establish ramie culture in this country are meeting with deserved encouragement. California will be benefited immensely by this new industry. If your process for ungumming the product proves efficacious, which I do not doubt it will, the benefits that will result can be scarcely overestimated. They may equal the effect produced by the cotton gins, for by it will be established in this country a permanent industry in the culture of a valuable fiber, and its manufacture into superior fabrics at a moderate cost.

I wish you every success.

Sincerely, yours, WM. VANDEVER.

S. H. SLAUGHT, Esq.,
Los Angeles, Cal.

SAN FRANCISCO, CAL., *January 30, 1892.*

This is to certify that I was at one time interested in the culture of ramie on a small scale in the Hawaiian Islands, and spent considerable time, both in this country and in Europe, to develop the enterprise. This I found impossible, owing to the fact that no way of successfully ungumming the decorticated, cleaned fiber had been discovered up to that time. Several months ago Mr. S. H. Slaught's ungumming process was brought to my notice, and I witnessed an exhibition of his invention when something over 5 pounds of fiber was worked, and I cheerfully state that, in my opinion, this fiber was thoroughly ungummed and in all respects equal to the best Chinese fiber. It is my opinion that by Mr. Slaught's process ramie can be worked in large quantities very economically.

I heartily recommend Mr. Slaught's ungumming process, and hope it will soon be brought to the attention of investors, as I firmly believe it is the only means of bringing the ramie industry to a successful issue.

Yours, truly, FRANK H. AUSTIN.

OFFICE OF CALIFORNIA HOSIERY COMPANY,
Oakland, Cal., February 1, 1892.

To whom it may concern:

Having been identified for the past twenty years with the textile industries of this State, and during the past years having followed to some extent the various processes that have been invented for the manufacture of ramie fiber, this is to certify that I have examined Mr. S. H. Slaught's ramie fiber and something of his process for the manufacture of the same, and find the fiber to be thoroughly ungummed, of full strength and gloss, and fully believe that it will be practicable to comb, card, and spin the same after being separated into its original and whole lengths. It naturally being an uneven fiber, generally ranging from 2 to 6 inches long, it must therefore have the different lengths separated as in wool, short lengths to be used for mixing with wool, the longer lengths to be combed and worked like worsted wools, and would therefore be perfectly practicable to be used for upholstery and other expensive goods, imparting to them a gloss and finish which otherwise can only be obtained by the use of silk, thereby greatly enhancing the value of the goods at a trifling expense; yet I think it would be practicable to commence the manufacture of the ramie by working the same on the machinery now in use for the manufacture of worsted goods, or by using the small lengths to mix with wool for cassimeres to great advantage, and thus ramie fiber would take the place of imported wools and would far excel them in durability and finish.

PETER T. HOLLINGS,
Formerly of the San Francisco Pioneer Woolen Factory.

[Written for the Florida Agriculturist.]

WASHINGTON, D. C., *February 15, 1895.*

GENTLEMEN: I see in your issue of 7th instant a proposition to go into ramie planting, etc. I have been actively engaged for the past five years in investigating the ramie plant, experimenting in preparing the fiber for carding, combing, spinning, and weaving into fabric, ramie propagating and raising from seed, roots, and layers, for fiber and seed, as well as looking into its history, habits, and the work done, and writing about ramie production and manufacture in this country and Europe. I find it is one thing to introduce ramie right to make it worth anything to this country, our farmers, laborers, and consumers, and we might include speculators, though they can generally take care of themselves; quite another thing for somebody to make a careless, ignorant splurge about a machine and raising ramie, possibly just to make a little money out of it, or lose some, as most of these do with their careless experience or attempt at what they know nothing practically about.

First, let me give you a little history about ramie in the South. In 1855 ramie was first imported into Washington from Java by Mr. E. C. Schaffer, M. D., from Mr. Wilson, of the gardeners there, and Mr. Smith, of the Botanical Garden here, planted and grew it (ever since that time) until now, and he says, in a letter to me, that two crops, and maybe sometimes three, can be grown here for fiber and one crop for seed (only, of course) annually. Ramie has stood the winters here without protection, while in China they grow it where they have to cover it in winter with heavy coat of manure to save it, and raise three crops annually.

In the Patent Office report of 1867 I find a report that they had had a "great furor" in the South to raise ramie to compete with cotton. They of course failed. There is just where they made their most foolish mistake. If you found plenty of gold and more easily obtained than copper, would you try to compete gold with copper and go to making it into pennies? You might as well try to compete with cotton—with silk—even if easily and cheaply raised as ramie may be sometimes. But it costs money to plant ramie and get started, and why should we take its fibers to compete with cotton at 5 cents or even 10 cents a pound, when ramie fiber is from 3 to 6 inch staple, as fine as silk, and almost as glossy, and much stronger and more durable, and when goods are made with silk facing, and three-fourths of the whole is ramie, and better, more durable, and stronger than all silk, which is worth from $3 to $4 and up to $10 a pound? Why use it for anything else until that want is supplied, thus getting a start in manufacturing? As a mixture for worsted and wool in cassimeres, blankets, clothing, dress goods, and underwear is the next possibility, and as a pure article in underwear, clothing for summer, and many finer articles than can be made from linen, and much more durable than linen. Next, why talk about competing with cotton? The only way it will compete with cotton is, for many years it will furnish a much more profitable crop to raise if started in this way, and thousands of planters can raise part ramie and less cotton, so as not to oversupply the market with cotton, and thus break down the price. Each man competes with himself, if at all, and those not raising ramie, but all cotton, are likewise benefited by being left with less competition and less overplus, so all will get a better price for cotton. Ramie must be put into higher priced goods, as long as possible, in competition only with high-priced imported goods and heavy goods of fine material.

Now, as to the methods of doing this to the best advantage. The manufacturers would like to have the farmers in some way raise a lot of it, not knowing its values, and then get hold of it at a low figure, put it into goods, and sell them for all they can get.

The capitalist speculators, if they start factories for ramie, want the same, and to make it all; in fact, they would just as leave import cleaned ramie, and the laborers to work it up, and make it all themselves, as to benefit this country or its people.

I have been striving to educate the people to understand it and help to promote it in their own interest, and as an American industry, dividing the profits equally between the farmers, the working people, the purchasers, the manufacturers, and the merchants, as well as the whole country, in keeping $100,000,000 at home annually.

In order to do this I will explain my idea: First, the farmer must be secured in a market by a reliable contract for several years before planting. In other words, a market must be created with the planting; and there is no market for our machine-decorticated ramie, because it is not like the Chinese hand decorticated and cleaned ramie, which even then has no market to speak of in this country, because there are no factories of any capacity to use it in, or that know how if they had. Yes, you may say, there are large factories; first, for upholstering goods. They have not the proper machinery for it—to start it from the crude to the combing—nor are they making good enough goods to need or afford to sell ramie goods to the best advantage for the people. Woolen mills might use some of it, but they are using shoddy, cotton, cotton waste, and other cheap stuff, and have not the proper machinery to make the right grade of goods, and would not pay a price that would benefit all classes, as I stated in the start. They want something cheaper than they are using now. You may say, they might put in new machinery and make the goods to do it. Well, that would be virtually going into a new business—both manufacturing and marketing their goods. They are often in debt and can not afford it if they would, most of them; and it does not pay to complicate their business if they could. They are trying to make cheaper goods for their competition all the time. It must be got at similarly to the sugar-beet business—by large organized capital for that very purpose, properly promoted in the interest of the country, by the people themselves.

Now, I see they offer to furnish you seed. You can better afford to buy the roots, being sure that the pay for them goes into manufacturing machinery or property established in your interests. Pay the mills for them in fiber. It will take you a year longer to get a ramie crop started from the seed than from roots, even if you succeed in raising from seed at all. They have always failed with seed in a promiscuous way. They did in Texas, and everywhere else I know of. The seed is very delicate and needs the care of an expert in a hothouse, and transplanting carefully, and unless one is in the business it will cost more than roots furnished you. Next, I see an offer to purchase your fiber, cut green with leaves and all, to be shipped at $3 a ton. First, it is worth three times that price to you, properly handled; but it can not be handled that way at all. It must be leafed by machinery in the field before cut; cut by reapers, and finally hauled to a decorticator within two hours' reach of the cutting; run through that and a dryer to a bailer. You can not afford to dry it by hand even now. You must have a sure market, and it will be worth 6 cents a pound net for several years, if properly promoted; that means 5 tons green, 1,000 pounds dry, each cut.

Manufacturers properly started in and interested exclusively to make goods worth from $1 to $5, or up to $50 per yard, in place of imported goods now made of silk, camel's hair, alpaca, wool, and worsted, and of course certain lines of heavy, and other pure ramie goods, and heavy underwear would succeed. We can not afford to compete even with the fine lines of Chinese, Japanese handmade pongees, and other like fabrics in fineness, to commence with, at least. What we want is Government assistance and an expert in the interest of the people controlling it, to start and manage it in stock companies formed for that purpose exclusively. That arrangement I have made in New Orleans; Mobile, Ala.; San Francisco, Cal.; here, and other places contemplated or arranged for, and two of them are in Florida. Pending the starting up of these I am getting the Government interested to assist in demonstrating it, and giving it the necessary impetus to succeed, with the bonuses that the people propose to give, and that it will be in shape for the American people, rich or poor, to invest safely in the stock of the companies. Then, we will have this most important industry launched in a successful and substantial way, dividing its full possible benefits directly and evenly among the people.

Corporations should be the safeguard of all investments, and can be made so if the people themselves will be honest and see that others are also, by punishing the guilty, high or low.

If you want to cease making millionaires, invest yourselves in good things and see that they are run honestly, and make good, wholesome laws controlling and fostering them, laying aside foolish, ignorant prejudices against the best institutions in the world.

Now, I will make you a proposition for western Florida and southern Florida alike: Each make up a bonus of $50,000 to $100,000, or a division of it, as they will do in several places in California and here; give a site for a mill, a site for a college, and a tract for a nursery, and lots for houses, if not a tract for a town site, and that, with an appropriation from the Government of $50,000 to $100,000, would put it in shape to put up fine buildings, and power and fixtures; $100,000 worth of the best machinery in the world for manufacturing the finest heavy goods made; from $200,000 to $500,000 worth of appliances, including $100,000 to $200,000 worth of stock, materials, and expenses of furnishing roots, machinery, etc., helping the farmers to get started; also helping to start and fill a college, in which our best boys and girls could complete a first-class education, while learning the finest trades in the world, including all kinds of manufacturing and machinery, drawing, coloring, painting, designing, weaving, knitting, and finishing, as well as business methods and mercantile pursuits. All this must be controlled by a strong, determined, earnest, honest effort by a party or parties interested in the work—mind, money, heart, soul, and body. It must be controlled sure that way, or there is no certainty of its ultimate satisfactory results. I have convinced the people of California, after two years of hard teaching—who needed it, too—and the masses are with me—while selfish capitalists may not be—and will stick to me, and I am going to stick to them, too, and the Government is going to help us.

Yours, truly,

S. H. Slaught.

Note.—In the above article, don't let the figures scare you. In one city in England there are 300 factories with a capital of not less than $500,000 and on up to $5,000,000 each. We certainly could stand that much all over the United States.

Washington, D. C., *January 21, 1896.*

Mr. S. H. Slaught appeared before Commissioner Ross and made the following statement with reference to H. R. 2905, "limiting the liability of stockholders of corporations in certain cases:"

Commissioners of the District of Columbia.

Gentlemen: It is immaterial to me whether this bill is made a special or general law, but it ought to be a general law for the good of the city, because hundreds of enterprises are incorporated in West Virginia and other States with lax corporation laws, and do all their business here, yet the city derives no fee from them, they paying for their franchises, etc., elsewhere.

The principal feature and object of this bill is to place in the hands of small-moneyed people the power to subscribe for stock in corporations without always standing in danger of having a ring of manipulators get control of a majority of the stock and then freeze them out by assessments, etc. Wealthy people would also take stock in a corporation of this character in a small way for investments, as well as to encourage industries and benefit themselves indirectly without wanting to control the affairs of the company, as it is necessary for them to do ordinarily to be safe in their affairs. They all know when they take stock in a limited-liability company of this character just how much they will have to pay and how large the capital stock will be, and that it can not be any higher without their consent, and they will not be annoyed or injured by assessments. Every bill, letter head, or paper used by the company in its business must contain the word "limited" on it, and the stockholders can not be held for any greater amount of debts than the unpaid portion which they have agreed to pay for their stock. Nor can the corporation be held for anything more than its assets. The company is good for its debts the same as an individual or a limited copartnership—for what they are worth and no more.

This bill is copied after the Louisiana law. Some of the features of that law, however, refer to Louisiana law not in vogue in this District, and these, of course, were not used in this. This bill is intended not to interfere with the District laws at all, but to make it feasible for manufacturing and private business to interest the public, as well as the capitalists, in enterprising industries which they will not unite in under the present law of the District.

The bill is a verbatim copy of the amendment proposed and asked for in California, which will only be possible to use there by an amendment to the constitution of that State. It is for manufacturers and private business, and not for banks, insurance companies, and close corporations. There is no chance for stock-jobbing speculation, because they can not assess or freeze out or do any stock jobbing under this law. The directors or trustees have to run the business as carefully as though it was their own, as they are held liable for neglect of duty or embezzlement.

Mr. Ross. Your principal object in getting this bill through is to enable you to manufacture ramie here, is it not?

Mr. Slaught. Yes, sir. We want the corporation to be perfectly safe, in order to induce the people to become investors—that is, the masses as well as the capitalists. In order to build up industries in this country the people must unite and cooperate, and be safe in doing so, then business will revive and the country will become prosperous. If a few make all the money out of paying industries they go to other cities or to foreign countries to spend their money away from home. If the masses interest themselves and make the money, the others, or all industries and business, prosper.

In Louisiana they relieve manufacturing companies for twenty years from payment of taxes in order to induce them to come there with their business, and if we could get relief from taxes here, for a few years at least, it would help materially to induce the people to do a little something in the way of small investments.

I wish the board would consider whether they might recommend this exemption for a certain period.

A large portion of the people of this country have a prejudice against corporations, as corporations, and others, of limited liability. The first comes from the fact that under the usual assessment law and liability for all debts, the law pretends to hold, but in the hands of dishonest manipulators the stock is issued to trustees of little or no responsibility, and indorsed by them, then passes current without responsibility, as ordinarily no proof can be had of who owned it when the debts were contracted, and while the public expects some one to be held for debts, none but the innocent are held, and that makes the nonmanipulators diffident about investing.

It is a misrepresentation, a getting of money under false pretenses, a speculation in gambling. The public, or especially the socialist element, is worked up to an exciting cry of " Cinch the corporations," while the sharp manipulators are laughing in their sleeves and taking advantage of all who can be drawn into their net of deception.

The innocent finally have to foot the bills of the sharp manipulators or rascals. Now, in this way the public becomes shy, worn-out, and disgusted with investments of this character. Under this plan of a "limited" corporation everybody knows just what it is, and no one would think of organizing a company under it to fool the people. It can not be done. Only solid, legitimate business industries could be promoted with it. Everything is plain and open with the stock which sells on its merits, and everybody knows just what to expect.

A country can not prosper without confidence of the people in business operations. Monopolies are caused by this loss of confidence of the public and a refusal to participate in enterprises, thus leaving all good things for a few.

A BILL limiting the liability of stockholders of corporations in certain cases.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be lawful for any number of persons not less than two, upon complying with the provisions of the laws of the District of Columbia governing corporations in general, except sections 562, 563, 564, 566, 567, 574, 575, and 581, class 4, Revised Statutes, District of Columbia, herein otherwise provided for (and by electing three directors, or more, two of whom must be citizens of the United States), to form themselves into and constitute a corporation or joint stock association for the purpose of carrying on manufacturing or any lawful business or enterprise not otherwise specially provided for, and not inconsistent with the laws of the District of Columbia: *Provided*, That no such corporation shall engage in stock jobbing business of any kind; the corporations herein provided for to have a capital stock of not less than five thousand dollars.

Sec. 2. That the word "limited" shall be the last word of the name of every corporation formed under the provisions of this law, and every such corporation shall paint or affix, and shall keep painted or affixed, its name on the outside of every office or place in which the business of the corporation is carried on, in a conspicuous position in letters easily legible, and shall have its full name mentioned in legible characters in all notices, advertisements, and other official publications of such corporations and in all bills of exchange, promissory notes, checks, orders of moneys, bills of lading, invoices, receipts, letters, and other writings used in the transactions of business of the corporation: *Provided*, That the omission of the word "limited" in the use of the name of the corporations shall render each and every person participant in such omissions, or knowingly acquiescing therein, liable for any indebtedness, damage, or liability arising therefrom.

Sec. 3. That no stockholder of such corporation shall ever be held liable or responsible for the contracts or faults of such corporations in any further sum than the unpaid balance due to the company on the shares owned by him; nor shall any mere informality in organizing have the effect of rendering a charter null, or exposing a stockholder to any liability beyond the unpaid amount of his stock.

Sec. 4. The capital stock of the company, of this class, shall not be sold for less than par, except not more than ten per cent of it, and that for not less than eighty per cent of par value, in promoting the company.

Sec. 5. All stock shall be held in the company treasury, to be sold to raise money to promote and operate the business affairs and interests of the company, instead of the usual assessments.

Sec. 6. The amount of stock sold, and the amount on hand in the treasury, shall at all times be reported, and open to the public for the inspection of those interested.

Sec. 7. That the directors or trustees of such corporations and joint stock associations shall be jointly and severally liable to the creditors and stockholders for all moneys embezzled or misappropriated by the officers of such corporations or joint stock association during the term of office of such directors or trustees.

[Phrenological Journal and Life, Illustrated.]

New York, *December , 1868.*

This is to certify that I have been acquainted with S. H. Slaught for some time and believe him to be every way worthy of trust. He is intelligent, prudent, persevering, and well adapted to business. Our transactions with him have been every way satisfactory to us.

S. R. Wells,
Editor and Publisher.

Hector, N. Y., *March 2, 1867.*

To all whom it may concern:

The bearer, Mr. S. H. Slaught, was some years ago a member of my school in this place, and from my acquaintance with him at that time, as well as from my knowledge of him since, I can cheerfully recommend him as a man of industrious habits, of strict integrity, and of exemplary morals in regard to his general character.

He is in an eminent degree free from the vices too common to the young men.

He has a good English education, and I have no doubt that he would aim to give full satisfaction in any business in which he might be employed.

John A. Gillett, A. M.

[The Watkins Independent, S. C. Clisbe, proprietor.]

WATKINS, N. Y., *April —, 1868.*

Mr. S. H. Slaught is a gentleman well and favorably known to our citizens. There is no man in all our circle of acquaintance who enjoys the confidence of the community to so great a degree. Always steady and reliable, prompt and efficient in the discharge of the duties imposed upon him, he has worked out for himself a character for probity and uprightness as solid and enduring as the granite rock. Whatever he undertakes he completes; for, seemingly, in his lexicon there is no such word as "fail."

With his energy you can count on the most perfect success.

[E. S. Stoddard & Co., general commission merchants, Nos. 58 and 60 South Peters street.]

NEW OREANS, LA., *July 12, 1890.*

To whom it may concern:

Mr. S. H. Slaught has been known personally to me for about a year. He is a fearless, intelligent, outspoken Republican, full of energy and push, and, so far as my observation has extended, is thoroughly reliable.

E. S. STODDARD.

OFFICE 728 FIFTEENTH STREET NW.,
Washington, D. C., January 10, 1897.

I include these few short letters from some of my old, eminent, and well-known friends of the past, as I have been assailed, misrepresented, and perhaps misunderstood personally as well, as has been the ramie plant, its growing, and promotion as an American industry. (See Document No. 47 for California petitions and recommendations.) If anyone wishes to look up this ramie matter here in Washington, which might be worth while to do, I am here and, with my friends, get-at-able.

Very respectfully, S. H. SLAUGHT.

[Address: P. O. general delivery, or at 310 Third street NW., where I have the exhibit and my office.]

SHICKSHINNY, PA., *November 30, 1896.*

DEAR SIR: Your favor of the 15th instant at hand. I would inclose the first article for ramie culture published for you in the Record and the Times. The copy with your other letter in has been mislaid somewhere.

I feel much interested in this new industry, but can not say how many will want to attend or enter the college until we become a little better informed on the subject, and would be obliged if you would inform me on the following points: (1) When will the college and factory be open for students? (2) What work will be taken up in the course and how long will it take to complete it? (3) What will be the necessary cost of the course? (4) Will a position be furnished when completed? (5) How is the $500 stock to be paid for?

If it will not be too much trouble for you to enlighten me on these points, I will be obliged and I can better tell where we are. I should be pleased to try some ramie plants the coming spring.

Hoping to hear from you soon, I am, very truly, yours,

N. B. GARRISON.

S. H. SLAUGHT, Esq., *Washington, D. C.*

WASHINGTON, D. C., *January 1, 1897.*

DEAR SIR: Yours of the 30th of December received and contents noted. You ask me when the college and factories will be open for students. That depends on how soon the proper number of students is made up. Just as soon as 200 are secured, of course, it can be done. That ought not to take two weeks' time, if properly known; but I should say that it ought to be accomplished by early spring of 1897. I want to do it by March 4, 1897. I am ready any time and would like to do it now.

The work taken up will be similar to that of any ordinary college, perhaps more of the practical text-books than most colleges, but, so far as possible, what is necessary for a business life. We will try to adapt it to the best advantage.

The course will cost just the $500 in money paid for the stock subscription (if paid in stock) for five years, if the pupil wishes to attend that long—$100 a year in cash, or stock subscribed for, all the while attending school. The pupil will, of course, have to work the certain number of hours a day which makes up pay for the balance of his expenses—living, tuition, and education—in college and the trades in the mill work.

Of course, the $500 investment in stock is an investment to the pupil, or the party purchasing it for the pupil, as much so as to anyone else, and it depends on the will and capability of the pupil how long he stays or it takes him to get education enough to suit him. No one refusing to work sufficient to pay his way would be allowed to remain. He loses nothing of his investment if he quits or if he is turned out. Of course, the stock is to be paid for cash down unless we choose to take part at a time. That is the capital that starts it, and the mill has to be started and run with it, as the expenses have to be kept up by the work in the mill—all but the $100 a year, which can be paid in stock or cash.

You see, no one is to forfeit anything in any event. We can not afford to keep anyone not qualified or willing to do and be what is right. No one runs any risk in buying stock, as it will be as good, and just the same investment for the pupil as for any business man, and everyone has his interest in the work and will draw his portion of the profits or dividends on his stock until used, and the probability is that all who can will prefer to keep their interest and pay their annual fees in cash, especially after fully established. There is going to be undoubtedly great profits in the business for a good many years at least. The early bird gets the worm, it is said, and of course it is preferred that the stock will be retained and a cash fee of $100 a year will be paid until fully established; but I think it best to give the privilege of paying in stock, as it shows my confidence in it, and I should prefer it to the money if we have money enough to run it without.

I am making this proposition bcause I feel an interest in this country and the children, and prefer that they should get the benefit rather than that a few wealthy men should have it all. It is high time that the people themselves take hold of new industries and that all, or a much larger number, of the masses receive a division of the profits; then we will have no monopolies and much less gambling. We must try and be honest ourselves and have proper stock laws and enforce them. I have a bill now before Congress we need very much in force in order to interest the public and make it safe and desirable for the rich as well as the medium classes to invest in corporate stock without fear of loss of the whole investment or liability for debts or bad management. Then there will be less or no incentive to start simply speculative or wild-cat companies. I am determined to run this business as a business, on its merits and on a cash basis, and start a revolution in stock companies, especially for new industries, for and by the people.

Yours, respectfully,

S. H. SLAUGHT.

N. B. GARRISON, Esq.

SUMMERS, VA., *December 24, 1896.*

Mr. S. H. SLAUGHT,
Washington, D. C.

DEAR SIR: I noticed in the Baltimore Weekly Sun an article on the subject of ramie, in which I became interested in your work.

I have read a number of articles on the same subject at different times, and think that ramie has a future before it in this country.

If not asking too much, I would be obliged if you could send me some printed matter describing its uses, manner of production, etc.; also would like some of the roots to try how it would grow here and introduce it among our farmers.

I have 800 acres of fairly good land and if feasible would undertake to cultivate a crop of it, if the product could be marketed.

Would be obliged and very glad to hear from you on the subject.

Very respectfully,

THOS. D. SHEPPARD.

WASHINGTON, D. C., *January 4, 1897.*

DEAR SIR: Your kind favor of the 24th of December received and contents noted. You are very right to think that ramie has a future before it; but it won't promote itself. Somehow it seems that what we want in this world we have to strive for first, and then hope and look for it afterwards. It needs concerted and united cooperative action, with at least a little seeming unselfishness to bring about great benefits to a people or a country. Then the individual gets his reward generally afterwards; but so many are so selfish that they would rather not make anything themselves than see anyone else benefit by it.

You are welcome to try some roots and experiment all you choose in raising ramie, and I will help you; but I am not wasting time for one after another, or one at a time, for a series of years, trying if it will grow. Is not an experiment by the Government for forty-one years worth anything to you? Growing is of no use without a market. We know it will grow if we plant it with any faith and cultivate it with any energy, if we can believe our own eyes or senses or what anybody tells us. Or have we become so hardened and calloused by the misrepresentations of the politicians and news men that we do not believe ourselves even?

If you want to please me or assist in this great enterprise, read up on it, especially my statements, and you can believe them, for I can prove them; then put some money, if only a little, into the factory and college, and when we have a paying market go into raising ramie as a business, in a business way, with energy and determination, and you will succeed in raising it—and to pay, too. You can not afford to do it at all any other way. You can not afford to properly take care of a little patch. You can not treat it properly. You can not afford to buy the necessary machinery or appliances for a small quantity, and thus you would fail, get discouraged, and never work up any enthusiasm in yourself or the world around you. I will send you some reading matter on the subject of ramie if you will make it your business to read it and show it to others and get your neighbors interested. Then you will help cooperate with them and us and thus receive not only the direct benefits you work for, but indirect and substantial good.

Yours, truly,

S. H. SLAUGHT.

THOMAS D. SHEPPARD, Esq.,
Rockbridge County, Va.

[Crompton Loom Works. Charles Crompton, president; Horace Wyman, vice-president and manager; Justin A. Ware, secretary and treasurer.]

WORCESTER, MASS., *November 2, 1896.*

DEAR SIR: Mr. S. H. Slaught, the bearer, desires to talk with you on the subject of ramie. Our process of preparing this material is combing. We are the only makers of wool combers in America, and would be interested in having our machines used—American machines for American manufacture.

Mr. Slaught can tell his own story, of which we know but little.

Trusting that we are not trespassing upon your time, we remain,

Yours, respectfully,

CROMPTON LOOM WORKS,
By J. B. WARE.

Hon. GEORGE F. HOAR, *Worcester, Mass.*

[Clara Foltz, attorney and counsellor at law, Temple Court, Beekman and Nassau streets.]

NEW YORK, *December 23, 1896.*

MY DEAR MR. SLAUGHT: I received your two letters, and the pressing holiday season prevents me writing you at length. I must at least acknowledge their receipt, and add hastily that I have not been able to interview either of the gentlemen whose names you gave me. You, of course, know that I am a very busy lawyer and that my time is much occupied. I am, however, deeply interested in ramie, and would gladly come down to Washington and assist you in presenting its merits and urging upon Members of Congress the vital importance of ramie culture in our country, to the end that a liberal appropriation may be made for that purpose; but I can not possibly at this time see my way clear to go to Washington to assist you.

My faith in your great enterprise is unbounded, and I bid you godspeed in your noble efforts.

I sincerely hope that the glad new year may find you happy and hopeful, and that Christmas bells may ring out merrily for you and yours.

In the meantime, believe me, my dear friend, yours, sincerely,

CLARA FOLTZ.

S. H. SLAUGHT, *Washington, D. C.*

[From Greater New York columns of San Francisco Morning Call, Sunday, November 13, 1896.]

S. H. Slaught, the president of the San Francisco Ramie Company, is busily engaged in New York in organizing capital for his company in Washington, D. C. He declares that the wonderful ramie plant will, inside of a few years, completely revolutionize the country.

A magnificent ramie mill is now being purchased in Washington, D. C. The machinery is being selected, and everything ought soon to be in readiness for active work.

Mr. Slaught is an enthusiastic and indefatigable worker, and quickly surmounts every obstacle.

WASHINGTON, D. C., *February 22, 1896.*

DEAR SIR: In your issue of 14th instant, in an article headed "Ramie plants will burn," your reporter must have been grossly misinformed in almost every point of any importance therein, which should not have occurred from the source from which he claims to have received it.

Of course I should blame him for not looking up the facts in the ten days he had to get at them in by interviewing reputable principals, as the burning occurred on or about the 4th instant, and I would most respectfully ask your indulgence in stating the facts and telling what is untrue.

First, I am not a "captain," and never was honored with so small a "handle" to my name, but I suppose that "Colonel" Bright tries to look beneath himself for all surroundings. "Colonel" or "general" is, or would be, my lowest limit, so he was wrong even in that.

They did not get my entire exhibit that was before the committee, as I suppose they intended to and probably thought that they had. I had the most important part of it in goods, documents, petitions, and valuable papers in a telescope chest, but the large photographs and one small set of specimens of goods (worth from $1 to $5 each) and the samples of the first, second, and third growths of stalks, with seed enough to plant 100 acres, and the full season's growth (10 to 12 feet high) of both 1894 and 1895 crops, on which they hung, were purloined on the 4th instant without notice and hustled to the furnace and burned. It was a division of my extensive exhibit (at the Riggs House, 15th and G streets, NW.)—all grown in Washington, on Government grounds—and I have duplicates of most of it. I make no excuse whatever for this foul act, even if they had had positive orders from the chairman, Senator Proctor, and the clerk also. But they did not see either of them about it, much less get any order from either of them in any shape, and really none from anybody. It seems that some one under the Sergeant-at-Arms went there and worked up some jokes with a young man in the office, making him think that they had no business there, and got him to say that, so far as he was concerned, they could do as they liked.

I never had my exhibition "kept or left in Senator George's committee room." I have not been in "active" or any other "hostilities with the agent in the Agricultural Department" or anywhere else. If anything, they have been with me, or rather the ramie industry. I have showed them up in their nonsense, ignorance, and misrepresentations. My controversy has been with the Secretary and Assistant Secretary of Agriculture, who are responsible. Mr. Morton has listened to and acquiesced in my work or privilege to do what I can with the consent and assistance of Congress. Mr. Dabney has not elevated himself to the important work.

I took my exhibition to the House Agricultural Committee room at the request of several members and the consent of chairman and clerk, and after reorganization, too, a subcommittee was then appointed and took it up and were ready to report favorably, but I requested them to wait for developments, as I wanted more than I expected them to grant under the discouraging aspect of funds.

I then took it all over to the Committee on Agriculture of the Senate, by request of Senators and members of it, and full consent and orders from Senator Proctor, chairman, and the clerk also. Senator Proctor had appointed a subcommittee to take it up—Senator Hansbrough, chairman—at my request.

He also appointed Senator George and Senator Butler on this committee, and I had urged them to meet as soon as possible, as I wanted the exhibition back to the House for Members who wished to see it, and I needed it here at the Hotel Riggs, where I have use for it day and night. I did not expect to leave it there as long as I did, and went to urge it up that very day.

The only excuse they have at all is on a par with this: "If you should have a lot of valuables in your house and should forget or not know enough to lock your door, and a thief should steal your effects, you could not blame him or possibly not convict him of stealing, though you caught him and proved it."

They say "I did not get a permit."

Their moving these things out in any way had nothing to do with "reorganization, or inventory, or change of rooms," as they were taken there long after all new committees were settled, and the Sergeant-at-Arms should have been changed also.

Yours, respectfully,
S. H. SLAUGHT.

C. G. CONN, Esq.,
Editor and Proprietor Washington Times.

NOTE.—It is presumable that this opposition came from sympathy with the Agricultural Department's assistant and agent for fiber investigation and their friends, and on up to the Botanic Garden superintendent and his friends in office in different Departments, encouraged by a selfish combination to hold their positions, as I was treated with the greatest respect possible by them when in good humor before I just hinted at the "feudal fence" and advocated the Americanizing of the Botanic Garden, thus modernizing it and putting it into always agreeable hands, competent to make it what it ought to be—the pride of the nation and the best in the world. We ought not to be second to anyone. Perhaps most people do not realize what it might be, or really what it is now—like an ancient seclusion and seesaw sameness for thirty years past—without specially looking it up.

WASHINGTON, D. C., *September 19, 1895.*

DEAR SIR: Wishing to see you and explain and prove to you the ignorant and willful falsehoods in Dodge's report on ramie, as much for your own good as mine, and especially in the interest of a great industry for the people, I have tried to see you early, before much had been said about it. As you sent me word that if I would write it out you would take notice of it in some way, I have prepared throughout the book references, as the shortest way to get at it.

It would take a volume to do it justice, and I can save your time and make it clearer to you much easier and so much better in a short interview, pointing out the most important falsehoods that can be proved right here before your own eyes, and proved by the employees of the grounds and parks.

Then you can, at your leisure, investigate the less essential ones and the mistakes, misrepresentations, foolish statements, worthless quotations, and wrongs. The injustice to business enterprise and ignorance is phenomenal.

The Agricultural Department is to help, and inform, and encourage, rather than destroy enterprise and invention.

I believe that you mean right yourself, and when you fully understand this treacherous, lying document, you will spurn it and its author yourself. You are not so unjust?

Very respectfully,
S. H. SLAUGHT.

Hon. J. STERLING MORTON,
Secretary of Agriculture.

WASHINGTON, D. C., *December 26, 1896.*

EDITOR WASHINGTON TIMES:

DEAR SIR: As you say you prefer offhand, flashy articles in your paper more than you do hard sense and truth, I would like to dissect one of them and see how you like that. If you will spare me a few lines for the benefit of your solid readers, perchance you have any that might be led to disaster by the articles "Nettle raising," in the morning paper, and in the evening paper of same date, viz, December 11, 1896, "Tales of the town," which last one treats of but one necessarily prejudicial statement of interest, viz, the unsuitableness of ramie for clothing, I would like to put the blame on the selection of the goods and not on the possibilities of ramie fiber in American manufacture. Cotton cheese cloth might do the same way if selected, and yet good, serviceable goods can be made of cotton even, and undoubtedly much better of ramie.

I have a specimen of ramie, Chinese handmade, just imported from China, I would like to show to anyone desiring to investigate for comparison with what the possibilities of ramie are in this country, if properly manufactured by machinery. I have them also. As to "Mr. Smith's knowing all or much about ramie," why should a gardener necessarily know anything about manufacturing? Our oldest manufacturers, even with large means, never learn it all. I do not know as letting it grow for forty years even necessarily makes one competent to know more about its manufacture, especially when he has never grown it for fiber even. Growing it botanically is not growing it for fiber, or profitably, either.

Now, as to the morning article. In the first place, ramie is not a nettle at all, any more or as much as the osage orange is a nettle, or the mulberry, or anything else. It is only of the same family of plants, perennial, etc. The roots live in the ground like asparagus, and it comes up fresh every spring or after every cutting.

Ramie will grow profitably only where it will not be frozen out by killing the roots in the ground in the winter by deep freezing, as it must grow up thickly to make good fiber and even, straight, branchless, and smooth decorticatable stalks about every two months or six weeks. It must grow quick and steady, or continuously, the thicker the better for fiber, and on not too rich ground, to produce good fiber even the second year. It does not get down to business for fiber the first year, and therefore can not be raised where it freezes out every winter, unless, as the Chinese do, in a cheap, piddling way, by planting very thickly in small beds, which we can not afford to do to compete with them.

"Having arranged with some factory to furnish them with fiber" is good, so far as it goes; but we must have the factories first, and they must prepare their own fiber. This writer seems to think the farmer can prepare the fiber, which will not be the case. The farmer must strip the fiber from the wood in a crude way—by machinery, of course—dry and bale it for market. Ramie fiber must be cleaned by a process, in the mill, and still it is not free "from that gum yet," nor "ready to spin." After it is decorticated, dried, and baled—which takes six machines to do properly, on the farm, including decorticator—it is still crude, and we have no market for that abroad. We will have a home market, which is what we want and need to make it available and profitable. Let us supply a home market first, then look for a foreign market when we have ramie fiber to spare.

Now, in the mill, cleaning is not ungumming, yet it takes a process and several machines to do either, and ramie fiber must be cleaned before it is ungummed. And then it is just the same or similar to the Chinese hand-cleaned commercial article we have been able to import for years, and our manufacturers have not been able to use because they did not know how to ungum it. And that was the trouble—and has been all along. We must know how to do that, and then separate it, and then comb it, before it is ready to spin, or be spun.

Amateurs, or unprofessionals, mix these things all up, as well as politicians do. Why do they know so much more than manufacturers themselves, when the manufacturers know when they don't know, and keep still? It's these "chaps" or "sisters" that "know nothing much" that think they know it all. Well, we don't have to "buy $150 or $200 an acre land" either; plenty is to be had for from 25 cents to $5 or $10 an acre, and it will not need fertilizing, either, to start with, at least.

You can't "sow the seed in the field," nor even upon beds, and raise plants that way. It must be sown in hothouses, or frames, or covered beds, and thoroughly tended and cared for to start it at all, then transplanted and grown in beds, rows, or hills, from which roots are dug, cut up, and planted like potatoes in the field. Then spread by cuttings, roots, and layers to thoroughly cover the ground, and it takes about two years to get started this way. If I mistake not, the silk importations in the United States were about $19,000,000. not $35,000,000.

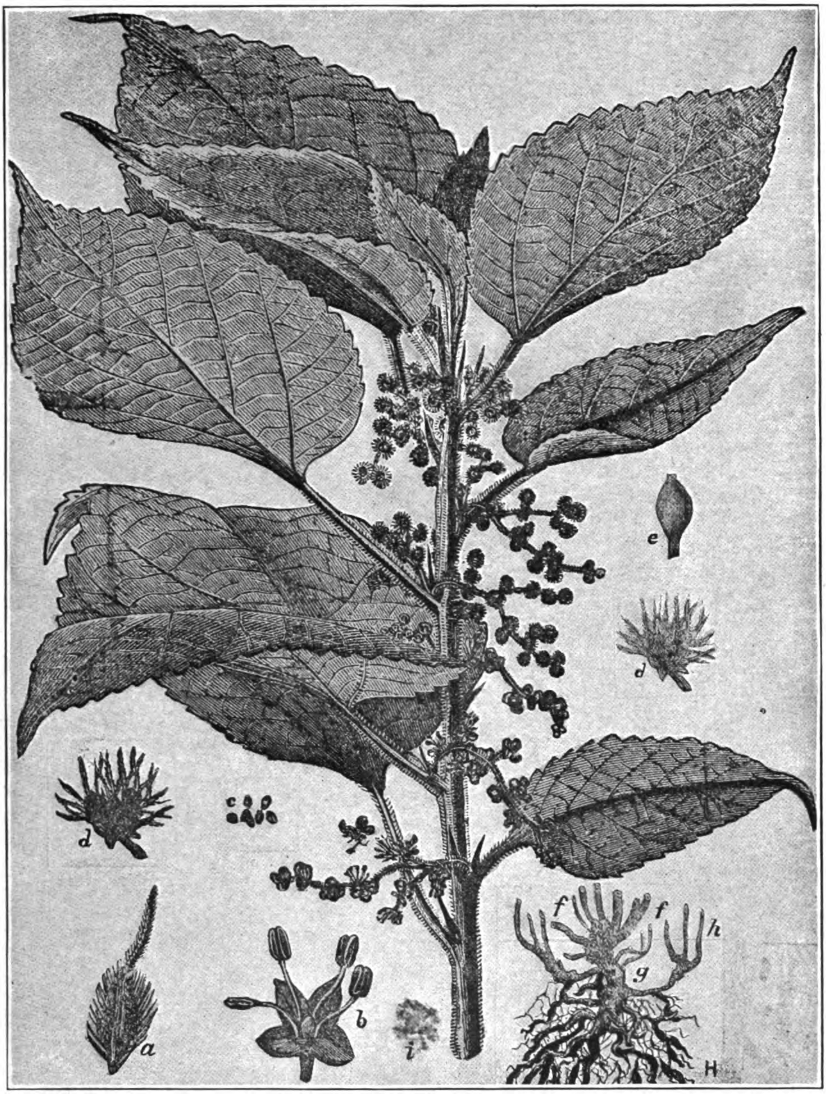
I never heard of "peeled silk." That may be used somewhere. As to crops, 1,000 pounds is a good yield for any one crop—not "two tons"—and is worth 6 cents a pound. Two and three cuts a year is good, even in the South, where there is not much winter, nor frost; more is possible where rains or moisture are continuously frequent, and no winter.

First year's expenses can't be more than $50 or $60 per acre on cleared land; with no income. Second year, some income, probably over expenses, at $10 an acre. Third year, full crops and $40 per acre expenses preparing and marketing crops. Profits on three crops, $180—$60 cost=$120 net; two crops, $120—$40 cost=$80 net. These figures might be the average. Ramie for fiber wants farming land, not "poor, damp land," unless you drain it and make good land out of it. It does want moisture regularly and pretty freely, but not to excess, to make good fiber and ripen up a crop every two months.

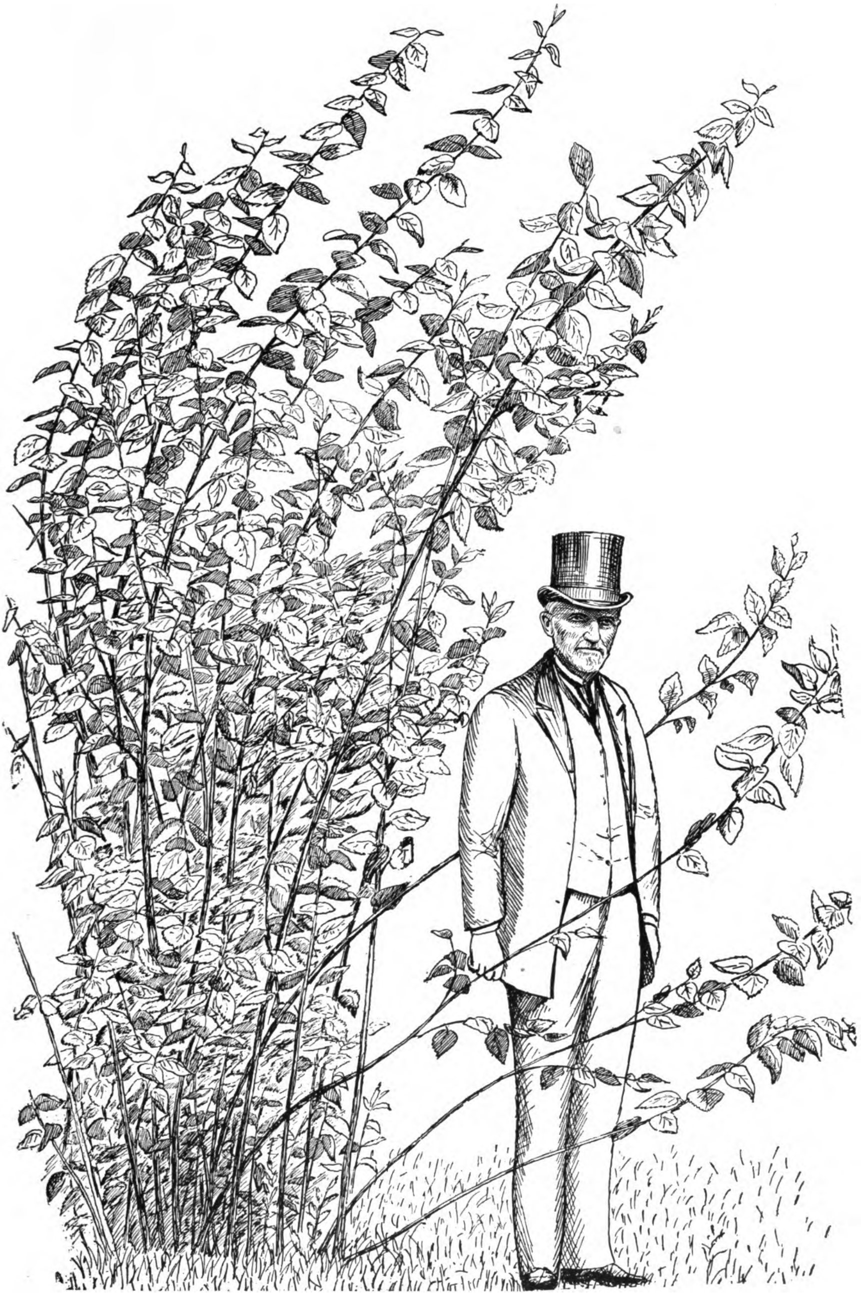
Yours, respectfully, S. H. SLAUGHT.

NOTE.—I insert no tables or statistics, because none can be made correct or of any use, any further than I have written, until we have done something in a business way actually in the work, and nothing has been done in this country yet reliable in that line, and most if not all attempted so far have been so ridiculously erroneous and exaggerated on the face of them that I should feel ashamed to father them, and I know that we can only approximate or guess at it until we can make this thorough demonstration I am trying to promote here now. A stalk must be grown right for fiber and cut right before even a test of its proportions can be made or chemically analyzed and correctly reported on. Anything out of perfect would be only misleading.

[Address: P. O. general delivery; at present at street NW.; room 66, Maltby Building, Senate Annex. My mail is forwarded to me here, or where I travel, from all large cities of the United States if addressed to city post-office, general delivery, at any of them.]

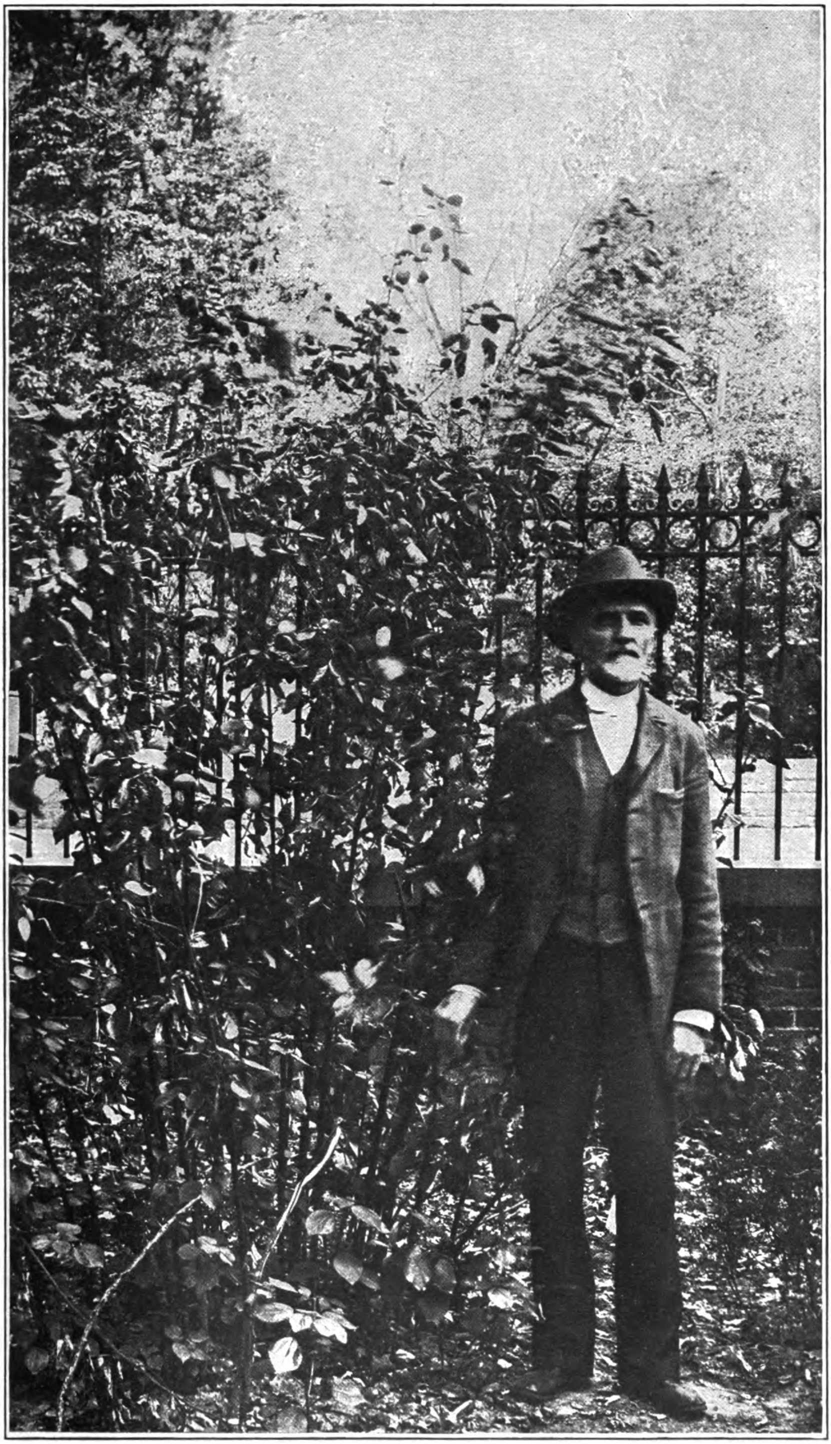


This is a picked-up drawing of top of ramie stalk with leaves, showing one stage of one variety of ramie blossoms and the coarse seed. *a b*, sprout and blossom, greatly magnified; *c*, seed, full size, large kind; *d d*, root cuttings sprouting; *e*, seed greatly magnified; *f f*, stubble; *g* and *H*, a poor representation of roots, much too small in proportion to tops, *f f;* all greatly reduced; *h* to *g*, surface of ground; *i*, small seed, full size, as you would see them rubbed off in your hand; hardly visible. These seeds were rubbed off, and spoiled the effect, by the photographer, he supposing it was something on the picture that did not belong there. See cut of leaves for proper showing of seed stem and small seed. See other cuts, which show them more perfectly.



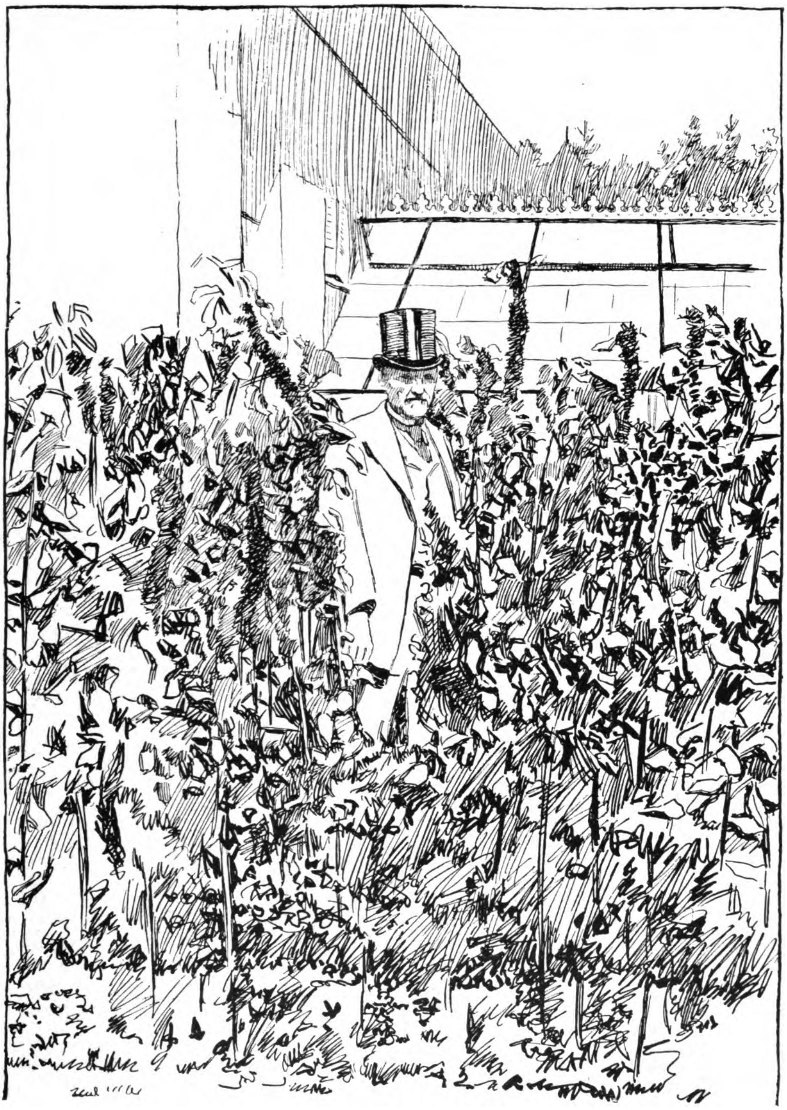
FULL SEASON'S GROWTH OF RAMIE IN UNITED STATES BOTANIC GARDEN IN 1895, IN THE OPEN GROUND NATURALLY. (FROM PHOTOGRAPH.)

This patch was fully 10 to 11 feet high, and this same patch grew some stalks 14 feet high in 1894 The difference in a season's growth in Washington, D. C., is caused by some accident or drought that stunts the growth in one case, and a full, complete season of frequent rains and no storms to break them down for the best or tallest growths. With irrigation nearly all bad accidents could be avoided, except cyclones, and they would not injure two months' growth for fiber generally.



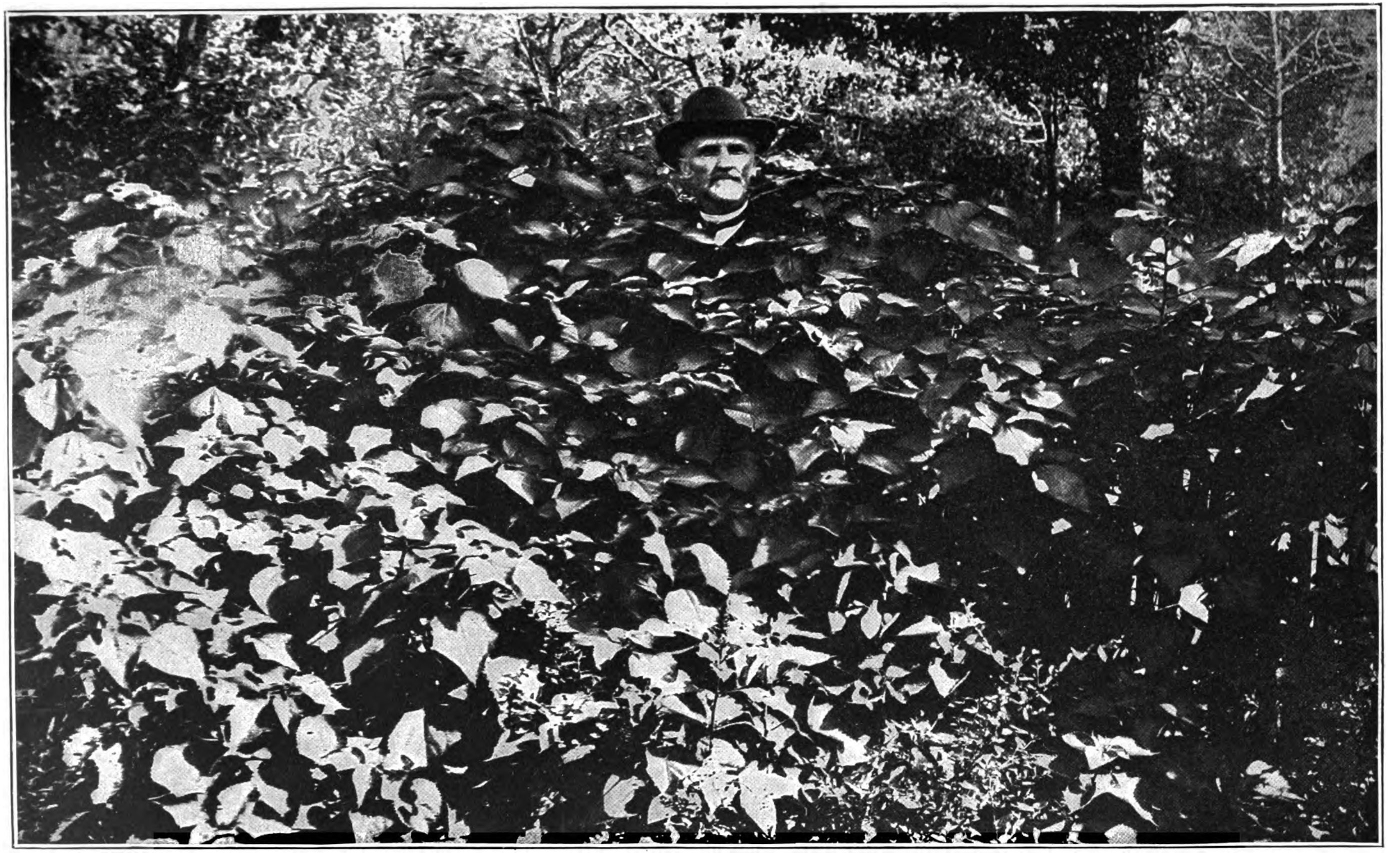
RAMIE PLANTS 10 TO 11 FEET HIGH. FULL SEASON'S GROWTH IN BOTANIC GARDEN, WASHINGTON, D. C.

Taken in October, 1896, after big storm broke them down, and now on exhibition at street NW., storeroom of house, by S. H. Slaught.



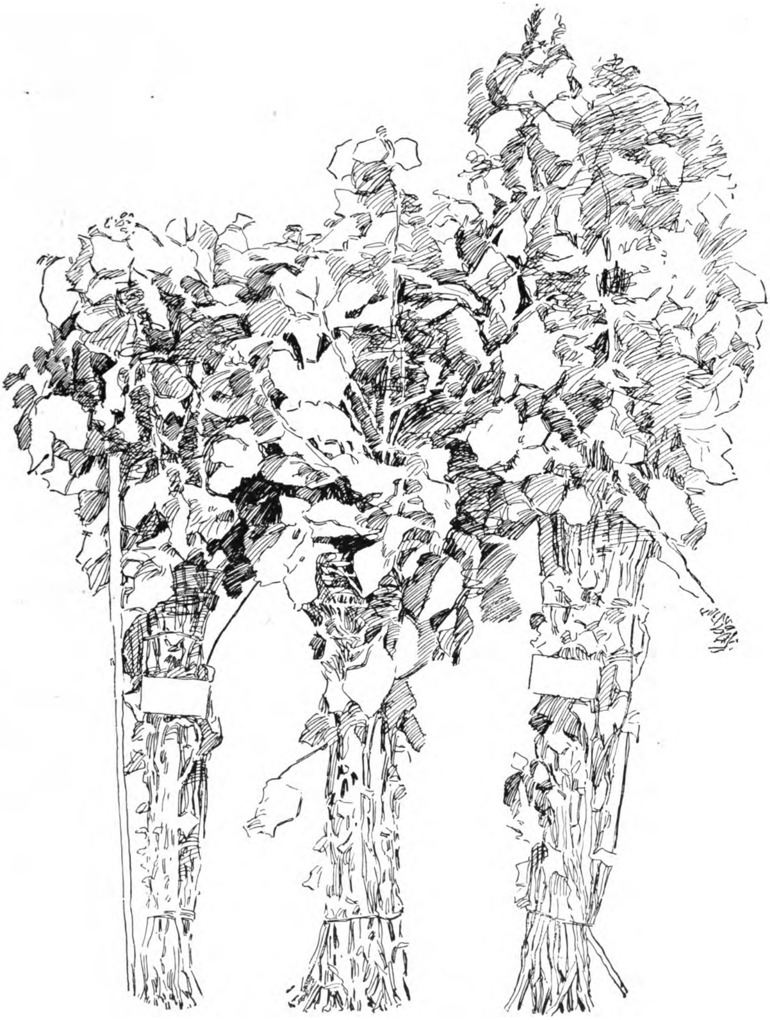
RAMIE AFTER-GROWTH, 7 FEET HIGH, GROWN IN THE AGRICULTURAL GROUNDS FROM ROOTS DUG ON JUNE 10, 1895, AFTER HAVING GROWN 7 TO 8 FEET HIGH IN THE BOTANIC GARDEN.

This crop was cut ripe for seed October 23, 1895, planted and harvested by S. H. Slaught, Washington, D. C. One end of this patch was layered down when 3 feet high and grew the third crop in one season 5 feet high and ripened seed. These plants were lopped over, heavy with seeds, and unless held up did not show full height. For further information see Senate Doc. No. —.



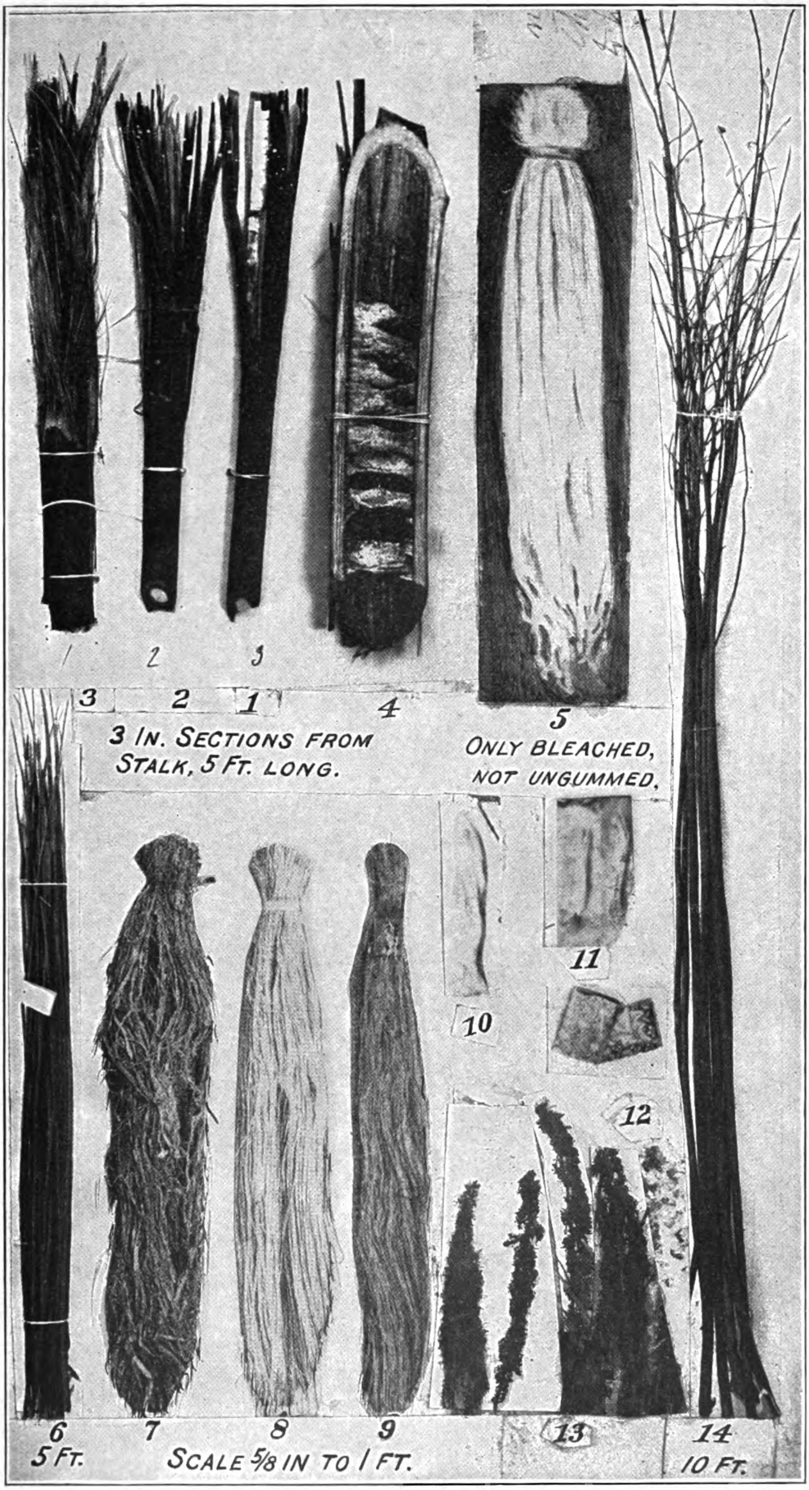
RAMIE PLANTS FOR FIBER 5 FEET HIGH, TWO MONTHS OLD, SECOND CROP, 1895. BY S. H. SLAUGHT, WASHINGTON, D. C.

First crop May 1 to July 6. This one from July 6 to September 5, 1895, on patch "heeled in" in June, 1894, for nursery stock (and not to grow); roots dug up after the first growth, 7 to 8 feet high in Botanic Garden, and grew 4 feet high, ripening seed before November 1. and from which was made the famous misrepresentation picture by Agricultural Department fiber agent as "A Season's Growth in Washington."

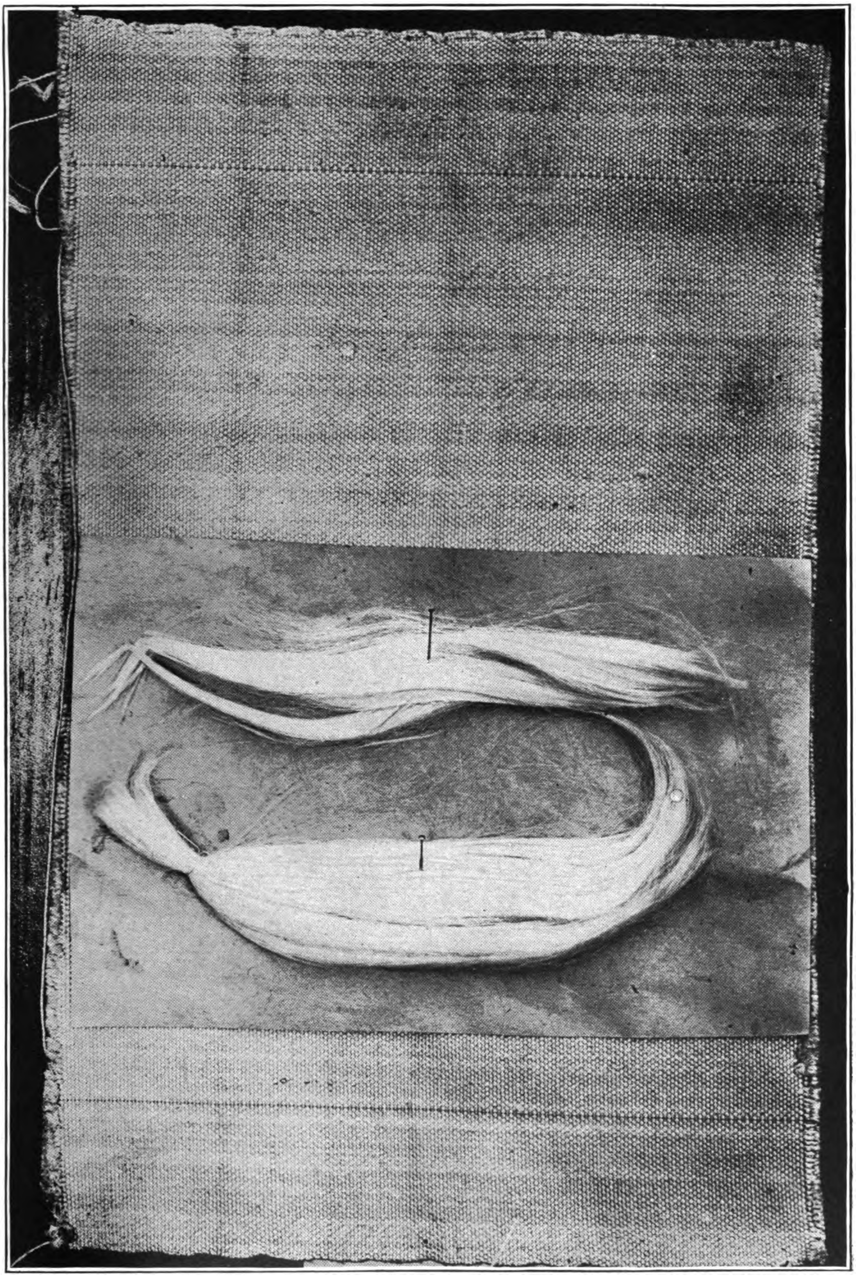


RAMIE GROWN IN WASHINGTON, D. C., BY S. H. SLAUGHT, 1895, IN 2 MONTHS.

First crop cut July 6; second crop cut September 6. Each crop fully 5 feet high. These bunches show the assorted lengths by grabbing the tops by handfulls in the bundles just as cut. Second year's growth from roots planted from Botanic Garden. See Senate Doc. No. —.

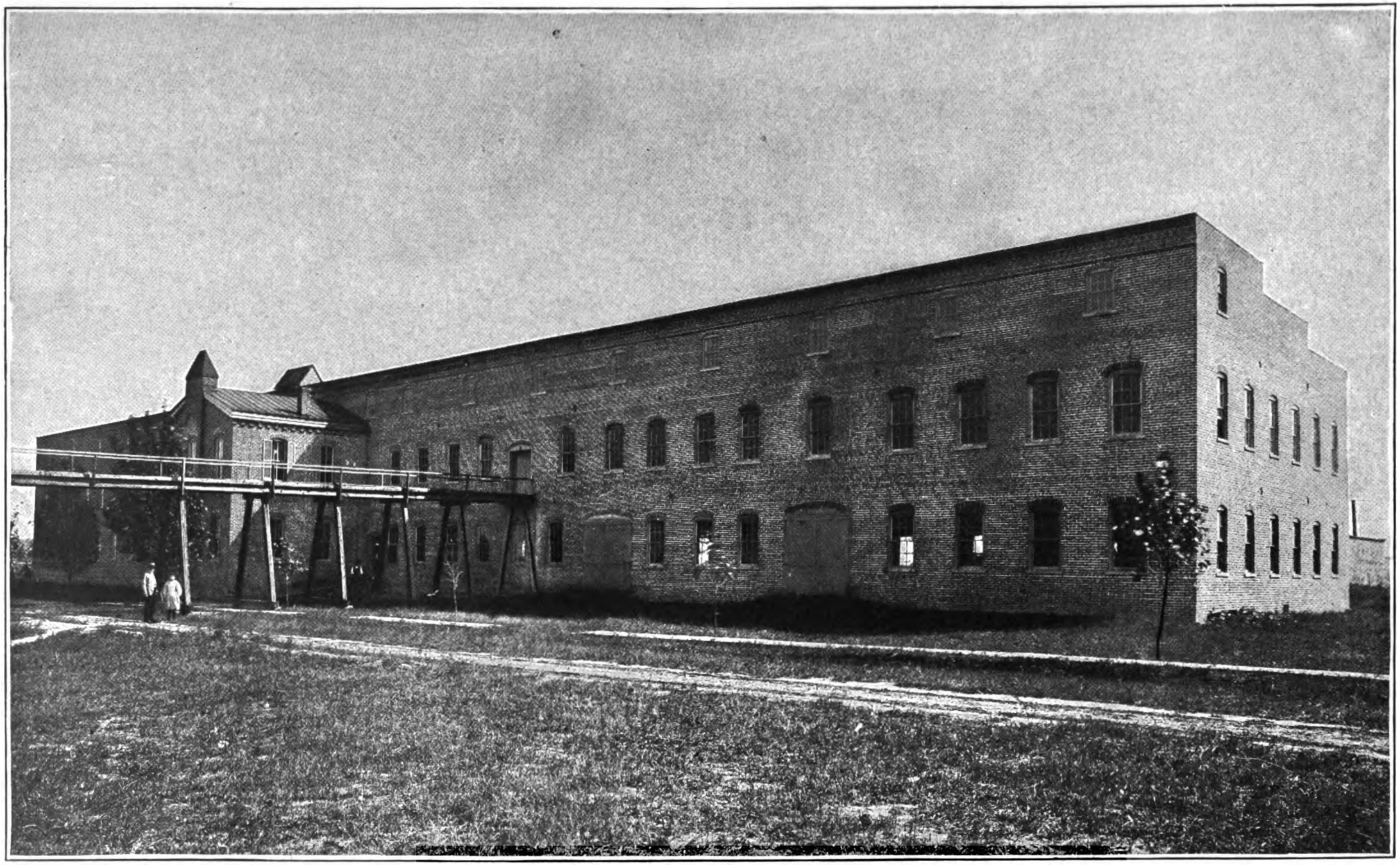

1
2
3
3
2
1
4
3 In. Sections from Stalk, 5 Ft. long.
5
Only bleached, not ungummed.
10
11
12
6
5 Ft.
7
8
9
13
14
10 Ft.
Scale 5/8 in to 1 ft.

Nos, 1, 2, and 3 are nearly full-size 3-inch sections from No. 6 of two months' growth for fiber. No. 1, broken in process of decortication. No. 2, fully decorticated. No. 3, cleaned afterwards. No. 4, half section, season's growth. No. 5, full-length Chinese cleaned ramie, bleached; is a misrepresentation if shown for ungummed fiber. No. 6, bundle of 35 stalks, two months' growth, 30 to 40 per cent fiber. No. 7, decorticated. No. 8, cleaned by aid of machine. No. 9, Chinese hand cleaned. No. 10, section of 6-inch staple ramie (sliver) fiber ready to be spun. No. 11, two small bunches ungummed 6-inch staple-combed ramie fiber. No. 12, prints. No. 13, limbs loaded with ripe seed; *a*, seed, ball of over one hundred, shelled, and *b*, a ball of one hundred or more seeds. No. 14, season's growth (for



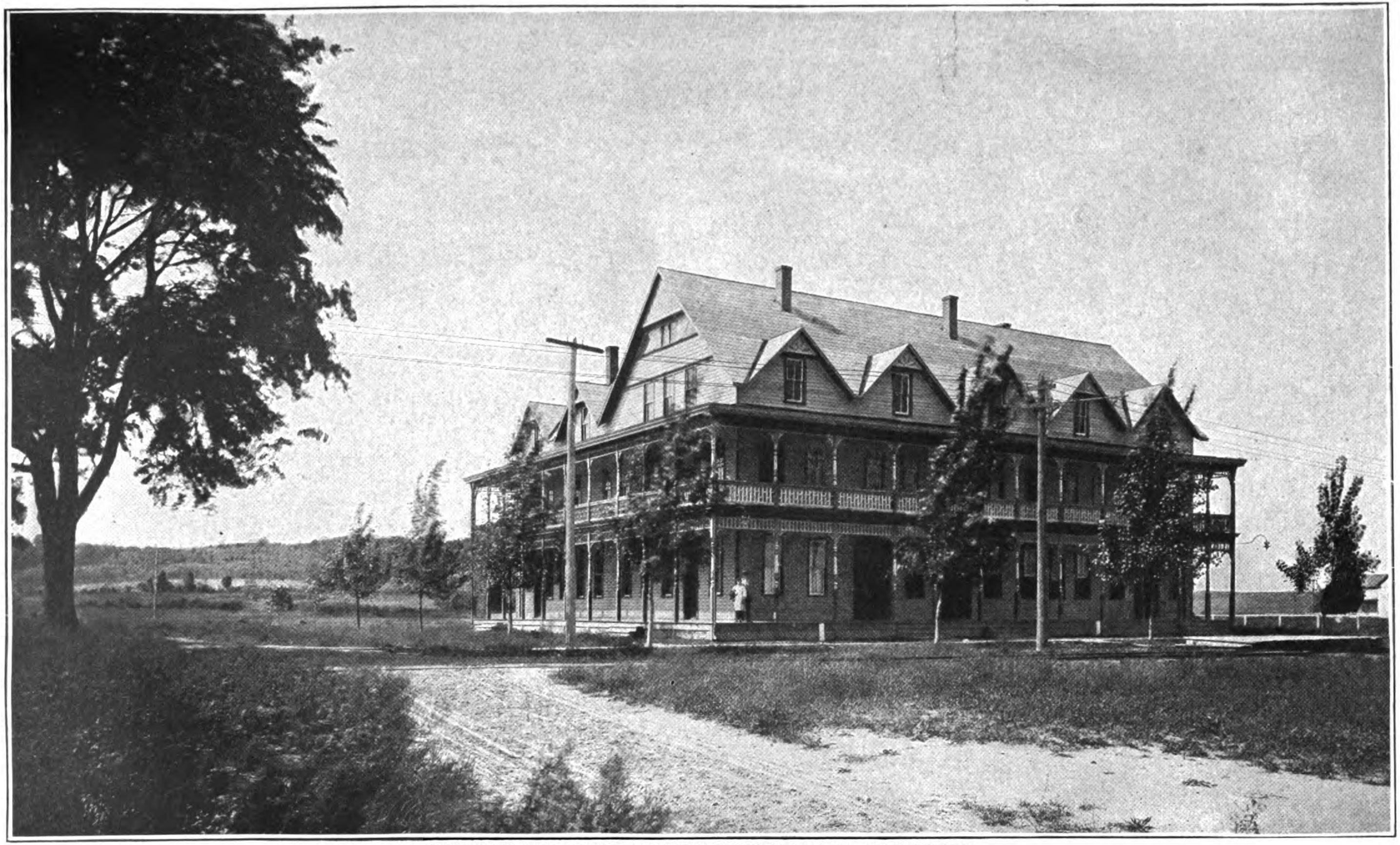
PHOTOGRAPH OF PURE RAMIE.

Six-inch staple ungummed and combed ramie fiber (spinnable sliver), as fine as silk, pure white, of full strength and gloss; good enough for anything that needs to be made, and a 9 by 15 inch section of the *Defender* sail woven in Massachusetts from yarns imported for that purpose. The ramie sail made out of even the short combings of ramie, 2 to 3 inch staple, is much stronger and more durable than twice its weight in cotton; is much more pliable, and does not shrink or stretch with change of moisture, nor so readily mildew. See this same staple of combed ramie fiber, Nos. 5 and 6 in exhibition plate, which shows it much nicer, but greatly reduced. This was photographed by electric light and thus shaded too much.



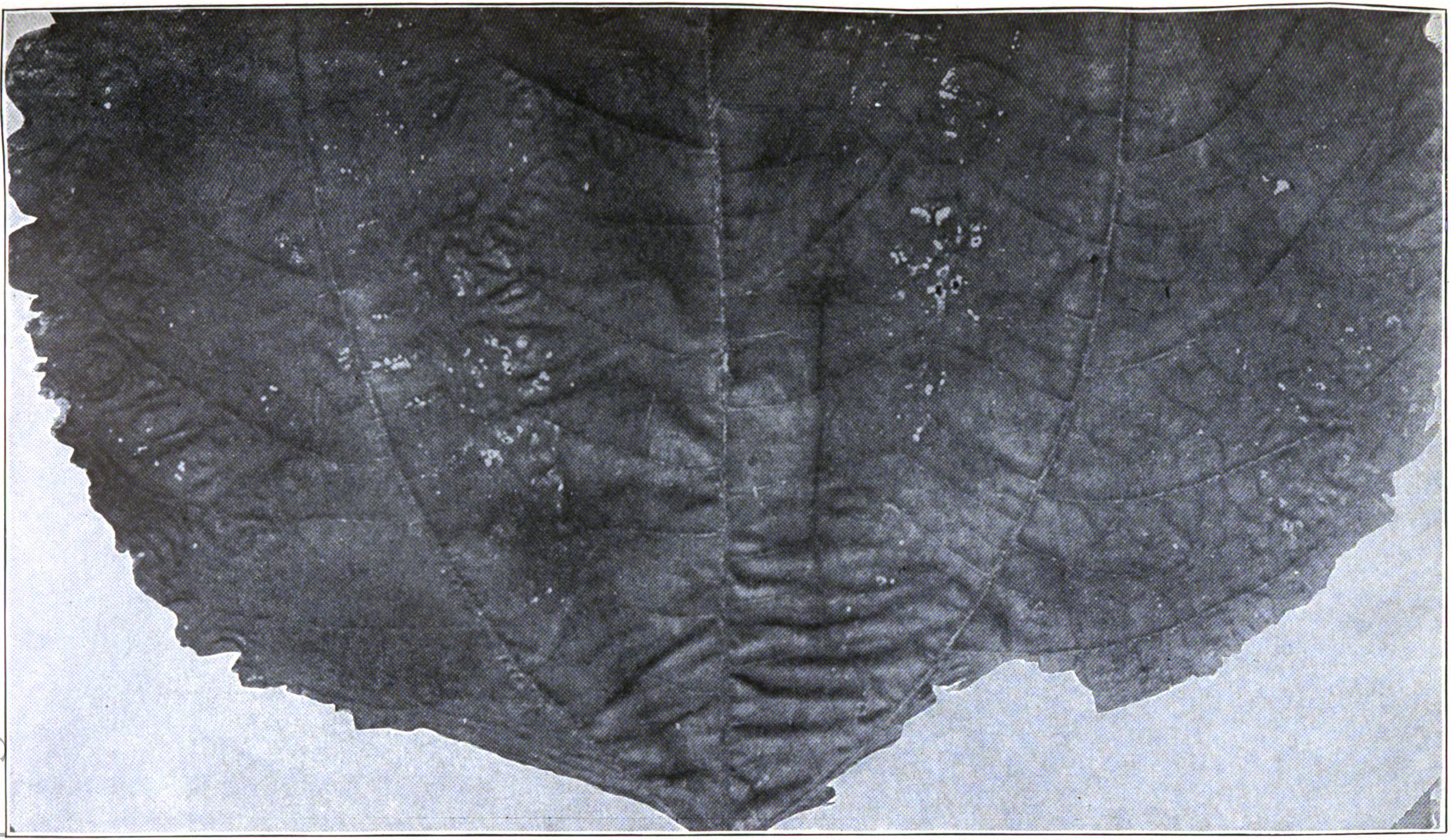
CONTEMPLATED RAMIE FACTORY FOR WASHINGTON (VICINITY).

Intended for pure ramie plain goods—as lines, nets, hammocks, yacht sails, tablecloths, and napkins; men's summer goods for clothing, white, brown, and colored, and woven or knit underwear; Marseilles goods for vestings, suitings for ladies and gentlemen, etc.



CONTEMPLATED RAMIE MANUFACTURERS' SCHOOL OR COLLEGE.

Accommodations for either 200 girls or 200 boys, living and all, whichever present themselves first fully qualified.



Stem end or half of a ramie leaf, 9 inches broad and 9½ inches in length, of the pure white (or *B. nivea*) kind, grown in Washington, D. C., and picked in early summer of 1895, near the south gate of the United States Botanic Garden, by S. H. Slaught. Reduced 1 inch in photograph and 1½ inches in breadth in this cut to get it on the plate. It was nearly perfect when plucked, but became mussed, crumpled, and broken when very dry in handling it to be photographed. The original leaf is now on exhibition at street NW.

HOUSE OF REPRESENTATIVES,
Washington, February 20, 1907.

To whom it may concern:

I have been familiar for many years with the work of Mr. S. H. Slaught in the development of the ramie industry.

For the last fifteen years I have been familiar with the development of this culture and his demonstrations of the worth and value to the people of the United States. I am convinced that it is a subject of the greatest merit, and that no recompense in recognition of the faithful work of Mr. Slaught in this direction would be beyond his merits.

JOSEPH C. SIBLEY,
Member of Congress,
Twenty-eighth Pennsylvania District.

COMMITTEE ON MANUFACTURES,
HOUSE OF REPRESENTATIVES,
Washington, D. C., April 2, 1906.

Hon. WILLIAM S. GREENE,
House of Representatives.

MY DEAR CONGRESSMAN: Inasmuch as you were acting as chairman at the meeting of the Committee of Manufactures when the opinion of Secretary of Commerce and Labor was asked as to the advisability of considering H. R. bill 14588, I beg to inclose herewith for your information a communication received from the Secretary of Commerce and Labor.

I have the honor to be, very truly yours,

JOSEPH C. SIBLEY.

[House of Representatives, Fifty-ninth Congress, second session.]

A BILL AUTHORIZING GOVERNMENT ASSISTANCE IN THE DEVELOPMENT AND ENCOURAGEMENT OF RAMIE-FIBER SILK AND FLAX PREPARATION AND MANUFACTURE, AND THEIR PRODUCTION AND PROFITABLE HOME MARKET IN THE UNITED STATES, UNDER THE SUPERVISION OF THE SECRETARY OF COMMERCE AND LABOR.

Mr. GREENE, from the Committee on Manufactures, submitted the following report:

The Committee on Manufactures, to whom was referred the bill (H. R. 14588) authorizing Government assistance in the development and encouragement of ramie-fiber silk and flax preparation and manufacture, and their production and profitable home market in the United States, under the supervision of the Secretary of Commerce and Labor, having had under consideration the same, recommend the substitution of the following bill and that the bill so substituted do pass:

A BILL Authorizing Government assistance in the development and encouragement of ramie-fiber silk and flax preparation and manufacture and their production and profitable home market in the United States, under the supervision of the Secretary of Commerce and Labor.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to provide assistance in the promotion of the ramie-fiber silk and flax industries, under the authority of the Secretary of Commerce and Labor, Congress hereby provides that a sum of money to assist in carrying on the development and encouragement of ramie-fiber silk and flax preparation and manufacture and their production and profitable home market in the United States, under the supervision of the Secretary of Commerce and Labor, one hundred and ten thousand dollars is hereby appropriated, out of any money in the Treasury not otherwise appropriated, said sum to be drawn from the Treasury of the United States on the requisition made by the Secretary of Commerce and Labor to be expended under the supervision of said Secretary.

SEC. 2. That the Secretary of Commerce and Labor is hereby directed to assist a ramie-fiber silk and flax demonstration, with a view of developing ramie-fiber silk and flax preparation, manufacture, production, and profitable home market throughout the United States. The demonstration shall be in or near the city of Washington, District of Columbia, or at such other point as in the judgment of the Secretary such experiment can be made to advantage.

SEC. 3. That the Secretary of Commerce and Labor be, and he is hereby, directed to assign a special agent, who shall be appointed by the President of the United States, the duty of superintending the Government assistance in the preparation, manufacture, and production of the ramie products, with a view to developing the production of and a profitable home market for ramie silk and flax, as provided in this act. The salary of such special agent shall be three thousand dollars per annum and such necessary traveling expenses as he may incur.

SEC. 4. That for the purpose of demonstrating the growing, harvesting, and preparation of ramie-fiber silk and flax for market, in connection with the manufacturing demonstration of the ramie-fiber silk and flax industries, to interest and assist the farmers and start a home market and assure and satisfy capital of its importance and disseminate knowledge of it. Mr. S. H. Slaught is hereby granted the free use of one hundred to two hundred acres of suitable and available prepared ground on the island reservation or Arlington Farm, or a part in both, to be allotted by the Secretary of War or the Secretary of Agriculture, or both, for a sufficient number of years to start it thoroughly.

SEC. 5. That this act shall be in force and effect on and after its passage.

H. R. 14588 was referred to the Secretary of Agriculture, and he submitted the reply of which the following is a copy:

DEPARTMENT OF AGRICULTURE,
Washington, D. C., February 24, 1906

Hon. JOSEPH C. SIBLEY,
Chairman Committee on Manufactures,
House of Representatives, United States.

SIR: Your letter of February 20, requesting an opinion to H. R. 14588, a bill authorizing Government assistance in the development of ramie product, silk, and flax, has been received.

This Department is especially interested in the cultivation of ramie, flax, and other fiber plants. Experiments which have been conducted heretofore have demonstrated that ramie and flax can be grown sucessfully in this country, and the soil and climate requirements for the growth of these plants have been pretty well demonstrated.

The economic utilization of the plants, however, is a matter connected with the manufacture rather than agriculture and is outside the line of investigations undertaken by this Department.

Respectfully, yours,
JAMES WILSON, *Secretary.*

The bill H. R. 14588, together with the substitute bill, S. 4633, was referred to the Secretary of Commerce and Labor, who returned the following reply:

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, March 27, 1906.

Hon. JOSEPH SIBLEY,
Chairman Committee on Manufactures, House of Representatives.

SIR: I have your letter of March 20, inclosing H. R. 14588, authorizing Government assistance in the encouragement and development of ramie fiber, etc., and requesting the opinion of this Department as to the advisability of passing that measure. The subject embraced in the bill was brought to the attention of Congress in the past through the Department of Agriculture and other governmental agencies, and reports were made thereon to the Senate and House of Representatives. Doubts have been expressed as to whether ramie can be successfully cultivated in the United States.

Experiments that have been carried on from time to time seem to have demonstrated that ramie can be successfully and profitably cultivated here and there is reason for belief that its cultivation would become extensive if industrial plants were established for the preparation and manipulation of the fiber and its conversion into fabric. The purpose of the bill seems to be that a plant shall be established by the Government, or largely through its agency and support,[a] for the "preparation, manufacture, production, and profitable home markets throughout the United States." This contemplates the erection of buildings, the purchase of machinery with a view to develop the production of and finding profitable home market for ramie, silk, and flax, and that the manufacture thereof shall be superintended by the Department of Commerce and Labor.[b]

The cultivation of ramie in other countries is quite extensive, and a large and profitable industry is supplied with the fiber, the products of which are sold in this and other markets.

The invention of machinery for the decortication and degumming of the fiber and its preparation for manufacturing purposes has stimulated cultivation in other countries, in which the growth is indigenous. In consequence ramie is now being extensively and exclusively used in manufacturing a variety of cloths, and is advantageously used in admixtures in the production of silk fabrics and finer grades of woolen and worsted goods. There is no reason to doubt that private enterprise directed in this channel would secure profitable returns for capital invested and that a large industry would be developed in this country. The matter involved is one of the highest importance, replete with possibilities, and worthy of serious consideration by Congress. The Department, however, does not feel warranted in expressing an opinion as to the advisability of the bill under consideration. If it shall be determined to extend the measure of assistance therein provided for the development and "the production of and profitable home market for ramie, silk, and flax," the Department will earnestly enter upon the work.

Very respectfully,
V. METCALF,
Secretary.

On the first presentation of this industry to Congress for assistance in promotion, Mr. S. H. Slaught, through the Department of Agriculture, in a bill presented by Mr. Coleman, then Member of Congress from Louisiana, by a bill prepared at the Agricultural Department, the then Secretary said in a letter to the Member in the House of Representatives in referring to that House bill No. 1191:

By this bill it is proposed to appropriate $100,000, to be expended under the authority of the Secretary of Agriculture, and in such manner as may seem best to him in experiments in raising, decorticating, and degumming the fiber of ramie, flax, and other fibrous plants, and manufacturing goods from the same.

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[a] "Assisted about one-third only." See bill—S. H. Slaught.

[b] "By an agent to be appointed by the President of the United States, under the authority of the Secretary of Commerce and Labor, and all the purchaseable machinery, and the processes, as well as the buildings, will be furnished by S. H. Slaught and his friends." See bill—S. H. Slaught.

In consideration of the fact that this Department has been actively interested in fiber investigations for over a year, and that these investigations are being continued, I would say that this measure was a very desirable one, and that an appropriation for the sum named would assist the Department at this time in furthering investigations in several important directions.

This was a letter of 7 pages, written and indorsed by the then Secretary of Agriculture, Mr. Rusk, and Assistant Secretary Willets.

In November, 1893, the measure was again indorsed by the then Secretary of Agriculture, Mr. Morton, and in 1894, toward the close of Congress, Mr. Morton, then Secretary of Agriculture, officially indorsed the bill then pending in the House of Representatives, by a special message to Mr. Hatch, then chairman of the Committee on Agriculture. Presented with the papers is a petition signed by the principal business men of San Francisco and the State of California, the governor, State officers, State board of agriculture, the State board of world's fair commission, and the presidents of the banks, manufacturing firms, and other leading organizations, boards of trade, and chamber of commerce asking the Government to appropriate $500,000, and saying that—

> It ought to spend $1,000,000 to assist in starting so important an industry that was so intricate and so worthy.

There is also submitted and made a part of this report letters and articles from various individuals and newspapers containing information of interest and value relating to this subject.

There are numerous instances where the Government has given substantial aid to new industries, both by direct appropriation and by protective tariff, and believing that this bill if enacted would build up an industry which would furnish profitable employment to thousands of its citizens, favorable action is respectfully recommended.

William S. Greene, *Massachusetts*,
G. A. Schneebeli, *Pennsylvania*,
Nathan W. Hale, *Tennessee*,
Charles B. Law, *New York*,
Henry C. Allen, *New Jersey*,
Republican Members of Committee.

Statement by S. H. Slaught, of Washington, D. C., January 7, 1907.

PRODUCTION OF RAMIE IN CHINA AND THE UNITED STATES.

Ramie is a species of fiber plant, called boehmeria, and belongs to the nettle family, producing a fiber directly in its inner bark which can be spun alone into a great variety of superior and beautiful fabrics and numerous other articles, or woven with silk, wool, alpaca, worsted, camel's hair, or flax, giving to the cloth into which it is thus woven a beautiful silky finish. Ramie has been and is being produced in China, Japan, Korea, and the Pacific islands at the present time and for thousands of years past to an extent that is an important element in commerce, and in the United States since 1855 only in an experimental way; but I am now and have been for twelve years past growing two or three crops annually and producing as fine stalks and making decorticated and cleaned and ungummed fiber from them as can be produced in the world, and demonstrating that ramie can be manufactured into goods at a profit here in this country. Ramie is not an annual crop or product of pods or bolls, like cotton, but has a 6-inch staple in the bark, and each fiber is an ultimate cell as fine as silk, of a pearly white and about as glossy, and much stronger, while it colors like silk. Cotton does not, and has a short three-eighth to seven-eighth inch staple of a dead white, and is an annual and has to be planted every spring and cultivated all summer and picked in the fall and ginned. Ramie when once planted and perfected is permanent—starts up itself in the spring and matures for fiber every two months. As soon as one crop is cut and harvested it grows right up again, like alfalfa, and once planted it goes right on producing of its own accord, and lives for many years, when once started with proper care, where the winters are not too severe so as to freeze the roots lying dormant in the ground during the winter months. It has produced one large crop each year, 10 or more feet high, if allowed to grow all summer, and ripens seed as soon as the frosts come to stop its growing and ripen up the seeds. I have grown two or three crops a season, 5 feet or more high, for fiber each year for the past twelve years or more here in Washington, D. C. Ramie grew in the Botanical Garden, in the open ground, from 1855 to 1900 almost without care, and, it seems, without comparatively anybody knowing it.

A good stand of ramie, which takes two or three years to perfect, will produce 1,000 pounds to the acre each cutting of the crude decorticated (not cleaned) fiber, as dried and baled ready for the factory; therefore from 2,000 to 3,000 pounds to the acre a season of crude dried fiber as decorticated by machinery, which is in the rough and is not cleaned by the same continued performance by any means, which can never be done to pay, or at all, we might as well say, by machinery in decortication. Ramie has to be cleaned after decorticated by machinery in the mill by a process, of course handled by machinery; then it is ready to be ungummed by another process, and of course handled by machinery; then it is ready to be prepared for spinning, and it takes some 13 machines still in the factory to prepare ramie for spinning, just the same as for wool or worsted, or even cotton or other fibrous material, for valuable goods at least. The great obstacle that has been in the way of the general use of ramie fiber as imported from China already cleaned, as well as already grown and decorticated by hand (both together by hand, not machinery at all), was found in the difficulty of removing the gum and not in the growing or decorticating at all. We have had machines that decorticated ramie for twenty years or more, but no market for the crude fiber here, because they did not know how to use the cleaned even, and in Europe for the same reason, and also that they could get the Chinese cleaned cheaper than we could produce it to pay us for them, even if the experimenters here had known how to clean it for them to any advantage, thus coming in direct competition with the Orientals on their own ground, and we having to pay freight, commissions, and profits to send it there, where it was worth half what it was here.

We do not think we can compete with oriental labor or production here at home, where we can protect ourselves with exclusion and a tariff law; how are we to compete with them in producing something here, where it is worth twice as much as it is there, even if there was no other obstacle in the way? I have developed processes to both clean the crude ramie fiber (machine-decorticated ramie fiber) and make it like the Chinese hand cleaned; and also for the ungumming the cleaned ramie fiber, and thus make it ready to be prepared for spinning, and have associated with me, or have engaged experts, or been offered the assistance of and the cooperation of the best machinists and expert manufacturers and the services of the best workmen in manufacturing goods. Now, the trouble is to get rid of the old prejudices, and to raise the capital, and produce the factory that will produce the goods and put them on the market successfully in quantities to compete with Europe, where they have so long a start of us, and to thus be able to contract with the farmers to raise ramie here in the United States; and when that is accomplished we will want a tariff on the fiber, both on the cleaned and the crude, of ramie fiber from oriental countries as well as European nations that ship ramie for them, and maybe control some of it, or try to, and not until then, as we can not go to raising ramie until we have our own market, and that must be in a factory or factories to make the goods that we can best compete with Europe in producing. The trouble with the tariff now is with the European importations of the fine yarns on a tariff of only 15 per cent, when the coarsest yarns pay 15 per cent and on up to 45 per cent. The 15 per cent was secretly put on in the last passage of the Dingley bill, and is in the interest of the importers and foreign manufacturers, and especially for the silk manufacturers, who are using large quantities of these fine ramie yarns, imported from Europe at 15 per cent tariff, when it was and ought to have been left remaining 50 per cent, and was passed that way by the House, and only secretly changed in the throes of a dying Congress.

These ramie-mixed silks are being sold for silk, and of course cost much less, even if they paid 50 per cent, and should be sold much cheaper, even if they are better.

That great wrong must be righted by correcting it next session of Congress. Then we can interest capital in the manufacturing of the goods and place them on the market, and thus create a market for the product to be raised by our farmers at a great profit to them, and the masses can have better goods made at home at much less cost than they have to pay now for them, imported as they are, and I am glad to say that the Agricultural Department is with us on that proposition now, and the Secretary of Commerce and Labor has signified his willingness to assist in its development, as it is a purely commercial proposition to start with. Consul Liefeld, of Freiburg, Germany, says: "There the first German ramie company is operating a factory at Emmendingen, Baden, for the spinning of ramie. The company has been in existence for about sixteen years. It now employs more than 600 workmen, is repeatedly adding new buildings to the already large factory, and expects to soon provide an annual output of more than 1,250,000 pounds of valuable yarns. The fiber used at Emmendingen is imported from China. In commerce now there is no distinction made between the two species of bœhmeri (Nevia and Tenasisima), and at the present time the name 'ramie' is almosst entirely the only name, a name which is derived from the Malayan word 'rameli' and first applied by the Dutch and introduced into Holland, Belgium, France, and Spain. The former term, 'china grass,' used at first in England for the first material imported from China and for a while made use of in Germany, has now, however, been replaced by the name 'ramie.' In England and her colonies the term 'rhea' is often used for the product." These statements, he says, are made from quotations of scientific investigations and expert articles on the subject.

The English and our former pretended "expert" ramie agent tried hard to "pull the wool over our eyes" here and make our people believe that ramie was not grown in Washington, D. C.; that what was grown here was nothing but "china grass," and was not ramie at all. Well, "chickens will come home to roost" and "time will right all things," so it seems.

Mr. Liefeld further says: "Characteristic, however, is the extraordinary length of the ramie fibers, as we find it occurring in no other fiber." (The average length is 3 to 6 inches and even 9 inches.) "It might be stated here for comparison that the fibers of cotton are only 0.5905 to 2.598 inches in length, and of hemp 0.1968 to 2.1653 inches in length, and these and the separate fibers of flax are only 0.1573 to 0.2598 inch in length, and of jute from 0.00059 to 0.00098 inch in length, so that also in this respect ramie surpasses all other vegetable fibers. The separate fibers, as far as breadth is concerned, are very much alike, and they diminish in breadth gradually toward the ends. As will be seen from the transverse section, they are especially ribbonlike in their construction, and accordingly under the microscope their transverse sections look considerably different.

"Fibers which lie on the breadth side show a broad lumen or inner structure and comparatively thin wall. The ends of the fibers taper quite gradually, and they have the breadth of 0.000118 to 0.00019 inch. They are in part pointed, in part rounded, and their inner or lunar structure appears, according to the position of the fiber, quite wide or very narrow. The inner thickened walls or growth as we see in hemp or jute are quite wanting. The cell walls of ramie fiber consist of pure cellulose and give all the known reaction of the same. By means of ploroglucian and hydrochloric acid or other reagents for linguine there is not the least trace of a woody reaction found, while this is the case with hemp and sometimes with flax, and is very markedly the case with jute fibers. In copper oxide ammoniate there is quite naturally a strong reaction and at the same time a contraction in the direction of the length, while the contents of the fiber remain unchanged. For the technical purposes the following qualities of the ramie fiber are of especial note and value: The great length and relatively the great breadth of ramie fiber, the excellent shimmer, like silk, the high pliability, moreover the great chemical resistance, and, finally, the extraordinary firmness. The first-named qualities have already been spoken of. Concerning the two last-named qualities a few words may be in order. The resistance of the ramie fiber to chemicals was definitely shown by means of many experiments especially made in France. According to these, ramie fiber acts with twice as much resistence as flax toward alkali. Important for certain uses is in this respect the action of ramie fiber as regards moisture and meteorological influences.

"Concerning this Dr. Forbes Watson (report on rea fiber, London, 1884) made experiments by subjecting different plant fibers at first to the action of steam under pressure of two-atmosphere pressure for two hours and then boiled them for three hours. According to this pressure, with the ramie fiber there was a loss in weight of 0.80 to 1.50 per cent, while flax suffered a loss of 3.47 to 3.50 per cent, hemp 3.38 to 6.18 per cent, and jute had lost its weight even 10.20 to 21.38 per cent. In more recent times similar comparative experiments have been made with ramie, hemp, and cotton materials at Spaunda, which show that ramie had the greatest resistance toward decomposition. The firmness of ramie is greater than that of all other substances. To prove this many experiments have been made. As long ago as 1855 Dr. Forbes Royal found that the resistance against tearing of ramie and Russian hemp are in the relation of 7 to 4. Fremery, in his work La Ramie, cites experiment of the English Government by means of which twisted bundles of fibers of equal weight and length were torn. For Russian hemp a weight of 80 kilograms (173.368 pounds) was necessary to rupture the fiber, while ramie could endure a weight of 275.5751 pounds, and other speciments of ramie even 376.9861 pounds—a fact which agrees with the results obtained by Royle.

"According to experiments by Doctor Harting, in the technological laboratories of the Dresden polytechnikum, these results for the ramie yarn number 84—a tearing strength of length of 12,489 yards; for spun ramie yarns number 16, one of 13, 213, 210.822 yards.

"Similar experiments were carried on by Alcon, according to which the tenacity of ramie yarn, flax, hemp, cotton, and silk have respectively the relation of 1 : ¼ : ⅓ : ⅙, while the elasticity of these is as 1 : ⅔ : ¾ : 1 : 1." Finally another interesting quality of ramie fiber must be noted, and that is its length weight, which must be taken into account as well as in determining the thread number as in the judgment of the prices of the same. Ramie thread is much lighter than linen thread, and stands in the relation of 6 : 10, while of linen thread 2.2 pounds number 10 has only 3.728 miles length; 2.2 ramie thread of the same number measures 6.2137 miles. Up to recent times the difficulties to be overcome were overwhelming and wrongly thought to be in the lack of proper methods for the decortication of the ramie stems, but latterly found to be in the properly ungumming the cleaned ribbons and prepare them for spinning" (so really the want of a factory to create a market for the crude machine-decorticated ramie, to be grown in this country, i. e., in a factory with the capital and the process which we now have to foster such a market).

Mr. Liefeld further says: "The methods which have been made use of in the separation of the fiber from the stems of flax, hemp, and jute, and which would include the processes of Rocstens, Darens, Brechens, Schwingens, and Hechelns, are not sufficient for the separation of ramie fiber." The bark which contains the fiber is easily separated green from the relatively stronger wood of the stems, but the difficulty is to separate the long valuable inner fiber from the surrounding tissues. In the usual steeping processes in the case of flax, hemp, and jute, whether the ordinary steeping process through the action of dew or the cold and warm water and steam, the inner tissue (the parenchyma) lying between the fiber bundles are considerably loosened and in part destroyed, while the inner useful fibers remain unchanged. These fibers can therefore after this process be easily and completely isolated from the stems; but this is more difficult in the case of ramie. If the change is brought about by or through the action of dew or water for only a short time, so that the fibers have not been affected thereby, the combining inner tissues are not sufficiently loosened to complete the separation of the proper fibers; if, on the other hand contrary, the fermentation (the process called Roeste is really a fermentation—retting we call it) is continued to complete destruction of this parenchyma, the separate fibers embedded therein will also be strongly affected, become tender, lose their brilliancy, and are unsuitable for spinning purposes.

"Another very serious difficulty in the isolation of the ramie fiber is due to the great quantity of mucilaginous or gummy stuffs, especially pectose, cutose, and vascelose and calcium pectinate, which surrounds the fibers and cause them to adhere to each other, and which can only be obviated through the mechanical (with slight chemical) means. Nevertheless, chemicals must be used with great care, so that the fibers themselves do not lose some of their valuable qualities." (This and not decortication has been the trouble which we have overcome.) Mr. Lyfeld says further: "During the last thirty years various persons have busied themselves with the solution of these questions, and the methods for the separation of the fiber which have been advanced have been very numerous. Since the beginning of the seventies there have been 460 methods and processes proposed for the separation of the ramie fiber, and most of them have been failures. These almost useless efforts of so many inventors show most clearly the great difficulties which were to be overcome.

"One author claims that in the years of 1870–1893 there were in France 185, in England 235, and in America 34 processes and machines described. The common method in China for obtaining the fiber is hand labor, about 1 to 2½ pounds of cleaned fiber per workman per day, and therefore for the work on an extensive scale or plantation must necessarily be altogether too tedious and costly; nevertheless, this hand method must be described here, as we can learn therefrom about the machine work and the cleaning thereafter in the factory by a process what we will have to so do differently from them." See Ramie Promotion and The Ramie Industry, Senate Documents Nos. 47 and 57, reprints from the same, Fifty-fourth Congress, second session, with 20 illustrations.

It is high time that the American people look to home for their own interests more and begin to know that we can do as much and better than our slow cousins across the water, who get ahead of us by sheer plodding and befogging our skeptical ones here, who believe nothing until they own it or profit by it. It is especially necessary that we, at the place where ramie is grown, decorticate the fresh-cut stems of ramie immediately in a green state after the leaves have been removed by stripping. The latest construction of decorticators profits by this experience and makes them exclusively for this material. The Chinese material of raw (cleaned) ramie fiber, as well as that received from the stems of the plant by means of the machines (decorticators) of course, and thus made the same as the cleaned by a process in the factory (handled by machinery, of course, and thus made the same), are still quite impure and form yellowish narrow ribbons. The finer fibers still cleave to one another firmly, on account of the gum-like materials, and must, before they can be used for spinning purposes, be subjected to a very careful ungumming process, which removes the gum. Mr. Liefeld further quotes: "Analysis of the raw fiber of ramie shows that this consists of cellulose and paracellulose and metacellulose, and besides several small quantities of albumens and mineral salts, the sticky stuffs vasculose, pectose, and calcium pectinate.

The various processes for the separation of the fiber from the stem do not, however, perform both tasks at the same time. It is the cleaned fiber which has been separated from the outer bark (outer cuticle) by mechanical means that can be used for ungumming, and this is made use of in European factories. The most important task for the preparatory work for spinning the ramie fiber is to prevent as much as possible the breaking of the same, for the great length of the fiber is, among other things, one of the chief characteristics of the ramie, because it makes possible the preparation of fine yarns with less tension and preserves at the same time the high quality of brilliancy only for it and as well the special firmness of the fiber. The bleaching of the ramie fiber or the yarns is only necessary for the absolutely white goods, when the fiber is properly prepared, and that should be done only in the piece. Well ungummed fiber of ramie possesses a natural pearly whiteness, and the yarn prepared is only very faintly, much, if any, if perfectly done, and is not yellowish, so that it can be very readily bleached for pure white or dyed without any bleaching. We do not have to bleach, as our processes clean and ungum and do not burn up the gum in the fiber as most of the foreign ones do, thus making the fiber and the goods harsh and brittle, and unsatisfactory in the wear, like most of the imported products are.

Mr. Lyfeld further says: "The spinning of the ramie fiber is carried on in but few special factories, of which there is one in Germany. In France there are at the present time only two factories, two in England, and one in Switzerland, and none in the United States. For textile purposes ramie yarns were formerly used especially in France, now in Germany. Swiss and Austrian and other spinners use the same to a great extent mixed with other yarns. In France there were materials resembling the linen fabrics prepared, as well as other textiles, white and colored. They were recommended for their lasting qualities and toughness, qualities which, as a matter of fact, the ramie possesses to a great extent. A very interesting use of ramie fiber may be mentioned which has been tried in Switzerland, namely, the braiding of ribbons for women's hats. Ribbons of a very beautiful luster and translucent qualities are obtained for this. The experiment made with ramie on account of its extra durability as a material for common paper would not pay or succeed, because of the high value of the fiber for high-priced goods, but would for bond or bank-note paper. The utility of the ramie is accordingly seen to be very great, and its qualities are such that it deserves a very important place. The many excellent qualities of the ramie materials will tend to make an ever-increasing demand for it, and if it could be cultivated in this country, not for crude purposes, but for a ready paying home market only for high-priced goods, for a time at least, in place of what we are now importing, to start with at least, it would be one of the greatest crops for us to promote the raising of.

Then why not promote the growth of ramie by first starting and perfecting the manufacture of the goods and make a market for what we grow? Why try to send it to a country where it is worth only half what it is here? We can manufacture it into an endless variety of materials and fabrics and useful things that we need and are paying dear for them.

Ramie makes the most extraordinary and lasting as well as beautiful great variety of goods, fabrics, and materials of any one thing. We make the machinery and have the best processes in the world, and can do more and better work in all the great industries. Why not in this? The present situation is different, as has been absolutely proved. Foreigners are jealous of our taking up this ramie industry, and are playing on our stupidity, and even using our citizens, I am sorry to say, in trying to "pull the wool over the eyes" of too many of our uninterested citizens, as they are so careless or corrupt as to let them go to too far and great an extent.

RAMIE, OR VEGETABLE SILK.

To illustrate the difficulties that have been in the way in promoting the ramie industry in this country, I want to quote some statements made by an Englishman telling what he knew about it, and that seemed to be a good deal. He commences by saying, "What is ramie?" Let us briefly examine its merits and possibilities. "Ramie is of the nettle family, and is known as Urtica bomeria, vegetable silk, ramie rameh, rhea, recha. In India, the Malay Peninsula, China Asam, and other places is also known among other names as kankura, kankhura, rixa, ritxa, chuma, kund, kurkunda, sumsha, pan, gun, and gwon. Its many names afford some idea of its wide distribution. As a matter of fact, it will grow almost anywhere, in any zone, is easily cultivated, and is propagated from seed cuttings or divided roots. It is many times stronger than cotton, jute, flax, hemp, silk, or wool, and has a staple of 2 to 6 inches. Both its luster and its strengh remain permanent after washing; washing, in fact, improves it, and it has great rot-resisting qualities, which should recommend it for many purposes. Surely the fiber possessing so many good qualities was never intended by the Great Architect to remain neglected."

WHY OUR MANUFACTURERS HAVE NOT ADOPTED RAMIE.

"Yet, in spite of its remarkable properties, ramie still waits the attention of our manufacturers (capitalists, I should say, as it needs a new set of manufacturers). The plant has been well known to our authorities for many years. The early travelers saw it in use by the native in many countries. The Chinese are fully aware of its merits and the Japanese also are working it, and it is imported here in fabrics which pass for other materials. In China it is cultivated extensively and takes the place as a valuable textile, and little is allowed to be exported."

"No difficulty is experienced by the Chinese in hand manufacturing ramie, but the primitive methods adopted by them in the preparation of the fiber (which also obtains among the natives in other countries) make it difficult to obtain in large quantities. The government of India, appreciating the value of the fiber, conceived the idea that it would foster the trade and promote its adoption, if they possessed a machine to decorticate it." "They accordingly offered a handsome reward to the inventor of a machine mechanically to extract a gum, which is most prolific in the plant, and which I understand is almost of sufficient value to induce the cultivation of ramie for its production."

(No machine will ever extract the gum; this statement shows that this writer was not a manufacturer; he probably was a dealer, a merchant, that knew in a business way a great deal about the difficulties, but decortication is not ungumming, and decortication does not clean, either. It is too bad that people write so much—they do not fully know—and they mix up decortication, cleaning, and ungumming, all in a machine, and the public is befogged or fooled about what they know nothing.)

"The offer, however, simply resulted in putting back the hands of the clock. Inventors set to work to produce machines to treat a plant which they had never seen and knew very little about, except from the description issued by the government officials. The result was, of course, that a suitable machine was not forthcoming, and would-be planters were deterred by the fear that they would be unable to handle the fiber when grown. This created a sort of impasse." Manufacturers wanted ramie, but would not start ramie mills until supplies were assured. "Planters were afraid to grow ramie; contracts were made and guaranteed beforehand, and so we traveled dans un cercle vicieux."

"(Manufacturers could not use the imported, already cleaned, fiber, and until they can use that there is no use in growing or decorticating any, as decorticated ramie is not cleaned.)"

THE MANUFACTURING DIFFICULTIES.

"Ramie has also suffered through the mistakes of the manufacturers. The merits of ramie were known to a few, and they determined to use the China supply, an effort being made to produce the article to compete with cotton. The existing methods adapted to cotton, flax, silk, wool, and the like were employed instead of a new process to treat such a special staple on purposely designed machinery. There was naturally enormous waste, and a great want of foresight was exhibited in not contracting for the supplies, with the results that importers were enabled to raise the price of the raw material, and what with the waste and high price of supplies and the initial mistake in putting it forward as a competitor, the attempt, which at best was but feeble, failed." (Of course it failed, as they knew nothing about it, and it did not pay for them to learn, even if it was possible for them to learn, for the goods they were trying to make—i. e., substitute for cotton.) "The operations, too, of promoters who were not slow to grasp the vast possibilities of the ramie industry have tended to put ramie in bad odor."

(Yes, I have been bothered with 20 of them, all over the country, from the Agricultural Department, urging people to invent and build decorticators and plant ramie, when there was no use for a machine until a market was assured by a suitable and capable factory that could make the goods that ramie is adapted for, and what will pay the best, and thus interest capital and be able to contract bonafiedly for the product raised in our own country, to the process claimers who had nothing and were working in the dark because they heard there were fortunes in ramie. These parties, one and all, were writing to their papers and to Congressmen that "they were doing all and more than I was doing and needed no help.")

The poor, ignorant dupes, they are all gone and heard of no more. Now, though, the story is that some have formed ramie companies to manufacture ramie. Yes, they can do as is done with silk, import the yarns, and weave and knit into goods, from Europe and call that manufacturing; but it is not promoting the ramie industry in this country; only helping European industry. What we want is the whole thing in this country. "All sorts of impossible achievements were promised to induce the investment of capital. If all the money wasted in the abortive attempt by bogus companies and the bona fide but ill-directed efforts had been used judiciously, the ramie industry to-day would be firmly established. The industry, however, is bound to come. It grows where cotton will and where cotton can not grow. It does all that cotton does, and much more that cotton can not do, while the same can be said of ramie in comparison with hemp, flax, and silk."

NOT A SUBSTITUTE, BUT A RIVAL.

"Profiting by past experiences, I would deprecate any attempt to put it on the market as a substitute. The very fact that the fibers in common use have been with us so many decades, and are cultivated and manufactured on so large a scale, would prevent success on the score of price. But the possibilities that it ultimately will compete with cotton, flax, hemp, jute, and other fibers are in evidence. It can be easily treated and universally grown. In fact, it does now compete with flax. It can be bought at prices varying between $90 and $200 c. i. f. I have bought it at both figures. Take $150 as a safe figure. At that price there are many articles that could be imitated by ramie and sold at the same price at a profit. But why imitate when ramie is endowed with such superiority that, even if it cost $200 per ton, hundreds of articles could be made that would command a huge sale at special prices? Sir Thomas Salt made a colossal fortune out of one article—alpaca. Lord Masham and Mr. Lister made millions out of raw silk waste. Messrs. Holden and many others of our merchants, manufacturers, and princes did the like with some specialty. There are hundreds of specialties waiting for the enterprising manufacturer who takes up ramie. I have always maintained that ramie should be started on its own merits, and in this I am pleased to see that such well-known authority as Sir George Watt, Bart., fully concurs.

"RAMIE'S WEARING PROPERTIES.

"The importance of ramie standing by itself is never so apparent as when its wearing properties are considered. It wears remarkably well. I made myself a ramie waistcoat ten or twelve years ago. It is being worn to-day, and must have been washed a hundred times at least. It has much wear in it yet. Again, I sent out a ramie khaki tunic to a trooper in South Africa, who wore it night and day during the war. It outwore three cotton tunics worn under the same conditions by troopers in the same company and is still good enough for plenty of service. The wearer was called the 'Duke' of his company, he always presented so respectable an appearance. Another ramie tunic was looted from the train, and I expect one day the Government will receive the inquiry from South Africa, 'Can you tell us what material this is? Our men can not wear it out.' An experiment is always being made with a servant's dress. It has been used for the hardest work in the house, but it simply will not wear out. For hard wear no other material competes with ramie. Apart from its beautiful luster, its toughness, and its nonelasticity make it eminently suitable for a wide range of products. While mixed with wool it imparts nonshrinkable possibilities to that article. Some of the articles for which it is preeminently suitable: Fishing lines, nets, sailcloth, tarpaulins, tents, ropes, lines, and shop blinds, where exposed to damp is inevitable; machinery belts and driving ropes, incandescent gas-mantle fabric, and measuring tapes, where rigidity is an advantage; table linen, dress goods, velvets, curtains, laces, and tapestry, where beauty of appearance is desirable. It also makes ideal hygienic underwear and the best surgical dressing. It should be noted that its luster is absolutely permanent and in no degree spoiled by washing, dyeing, or other manufacturing operation.

"A CASE FOR GOVERNMENT HELP.

"Now, the position of ramie to-day is this: All agree it has wonderful possibilities and merits. Everyone speaks of its good, and no one can produce anyanything against it. Yet so far it has made no headway in this country, for the reason I give in the foregoing lines. The question therefore is: How can we bring about a different state of things? I should say only by reversing the mistakes of the past. First, our Government, India office, Crown colonies, and the boards of agriculture in all our colonies should send out a pamphlet expatiating on the merits of ramie, offering help in the form of seed, plants, etc., and advising on methods of cultivation. Bonuses should be offered for the production of ramie, and decorticating and degumming manufacturing central stations should be established." (Here the cart before the horse again. All this will be good when the factory is established to make the goods and the capital secured to contract for the material, and not before.) "I do not recommend degumming stations and manufacturing except on a large scale. Small parcels of fiber can be shipped, and the degumming can be done there. Small farmers wishing to start ramie can do so without any great delay, and they can prepare the fiber for export without costly machinery. The establishment of the ramie industry on a large scale is a splendid opening for our capitalists.

"After all it would not be a very great undertaking. We have hundreds of capitalists capable of fostering the industry. Let the planters turn their attention to ramie, and for every ton grown two more will be required for many years to come.

"To our manufacturers I would suggest they study the merits of ramie, and start the manufacturing of those articles to which the properties of the plant are peculiarly adapted naturally. In conclusion, I should like to emphasize the fact that there are no difficulties now existing as regards the growing preparation (decorticating for the factory) of ramie. The crux of the question is the capital and the supply of the raw material. There are many other points I would speak of, but space forbids. I think, however, the foregoing is sufficient to prove that ramie is undoubtedly the textile of the future.

"P. S. Since writing the above I learn that the Germans and French are fully alive to the potentialities of ramie. The Germans in their African colonies, by subsidies, are encouraging its growth; the French in their Asian colonies, and are even offering inducements to our Indian planters. When will our people take the lead, and not wait for others to show the way, and capture the trade? If we are to compete with go-ahead nations we must not let 'I dare not' wait upon 'I would.' We cling to old methods, ideas, etc., till others step in before us, and then at the last moment, for self-preservation, we adopt the example of others set us and have to put up with 'bread and cheese' profits, when we might have pioneered and had the 'cream.'"

I say nearly all this now, and have said as much and more all along, if only people that ought to read it would lay aside their ignorant stubbornness and listen to the truth, they could see that this is a very difficult industry to start, and much worse than if no mistakes and misrepresentations had been made.

If further information is required as to how to procure seeds or plants, cultivate and prepare the fiber for the market, and dispose of the produce, or advice as to how planting and preparing for the market, the installation of degumming and filassing stations, manufactories, etc., I shall be pleased to afford any assistance I can give to inquirers. Stamps should be inclosed with all applications, and as a proof it is not an idle inquiry.

Ramie—A new vegetable silk—Another American industry awaiting development.

In connection with other plans in booming Washington (as well as the whole country) as a manufacturing center, an effort is being made now to secure capital for a ramie (demonstration) manufacturing plant. The chief authority on ramie in Washington for a number of years past has been S. H. Slaught, who has had a number of bills before Congress, and endeavored to interest the Government in the (assistance in a demonstration) manufacture of the fiber.

Most people know in a general way what ramie is, but few of them have any intimate knowledge of it. The plant belongs to the nettle family, and is a perennial—that is to say, after it has been cut down to the roots or winter killed the plant comes up next season as strong as ever. It is a hardy plant and will raise two or three crops a year, even as far north as Washington. It is better than hemp or flax and rivals silk in strength and almost in fineness of fiber, and has the same gloss that characterizes silk; in fact, the ramie yarns are imported into this country now, and are very largely mixed with real silk-making goods that are as lasting and almost as brilliant at a fraction of the cost. With all these advantages there has been one drawback in the plant. That is that the long and valuable fibers are held together with a gum that is almost impossible to remove, and till it is removed it is not in a condition for spinning or weaving.

This difficulty is overcome by the Chinese, who clean and manufacture the fiber into goods by hand (without ungumming), making about 2½ pounds a day. Of course this can not be equaled by hand labor in this country, and the result is that ramie has never been ranked here as a possible crop. Mr. Slaught has overcome this difficulty with processes, and by machinery can readily compete with any people or nation.

Also the tariff has been against it, for there is a duty of 15 to 45 per cent on ramie yarns of all classes, whereas the intention of the bill as it was first drawn in the Dingley bill was to assess a duty of 15 per cent on the coarsest yarns, graded up to 50 per cent on the finest. Only the finest yarns at 50 per cent were reduced in the print to 15 per cent, just the same as the coarsest yarns, showing that it was a sharp scheme. These fine yarns are imported from Germany, France, England, and Switzerland, and manufactured with a little silk-worm silk into silk dress goods and sold for silk. These interests are, of course, opposing Mr. Slaught in the promotion of the industry in the interest of the people and the whole country. With the 50 per cent protection, as the tariff was intended to be, there would be a satisfactory profit in raising and manufacturing ramie goods in this country, and the chances are all in favor of its becoming almost as valuable as the cotton crop, in fact more valuable than cotton, while it would be adaptable to cover a much larger area than is comprised in the cotton belt. The secret of cleaning and ungumming the ramie without injuring the fiber. Mr. Slaught claims to have discovered, and it is on the bases of this process that he wants to establish the factories here. He has approached a number of influential capitalists, and everybody has held back waiting for the Government to appropriate money for assistance in the initial demonstration. The promise has been given by a number of Senators and Representatives that such a bill will be passed at the next session of Congress, but in the meantime some of the railroads have taken up the matter in the belief that it would form an important crop for their lines to handle. Two of the companies have taken up the matter and have promised to use their influence with Congress to get through a bill for the initial demonstration, as well as to take stock in the establishment of an American factory. A good stand of ramie will produce two or three crops a season, and will yield from 2,000 to 3,000 pounds of crude dried fiber each season to the acre. Thus it will be seen that the yield will be an important factor for the railroads if the industry could be established, and there would be no trouble about the farmers raising the crops if they were assured of a market. Now, several of the merchants and department stores in Washington have taken interest in the subject and, having been shown samples of the fiber and the goods, of which Mr. Slaught has made an extensive collection, they are seriously considering the formation of a company to develop the process and manufacture of the goods.

Local merchants interested.—There would be considerable of money involved in the establishment of the demonstration factory, but it is believed that the money can be secured. Mr. Slaught has an option on a suitable building on Pennsylvania avenue, not far from the Capitol, and says that the necessary machinery could be installed and separate motors for each machine, so that there would be no objection to the plant in the heart of the city, either on the score of noise or smoke. One of the first things to be manufactured would be underclothes, shirts, socks, etc., which can be made from the fiber, and are just as handsome, a great deal cheaper, and more durable than silk, and can be made here better than anything that is imported. It is believed that if there is an establishment for turning out goods for this sort of material that when a few Congressmen have been fitted out with garments there would be no trouble about getting all the money needed appropriated for large factories.

For the present, though, there is no trouble about growing ramie anywhere from Washington southward. The fiber used to start with would have to be imported. Ramie has been imported in the yarns and made into silk dress goods, and sold for silk and other high-priced materials for some time, and ought to be raised and used here.. Ramie has been grown in the Botanic Garden here in Washington, D. C., for forty-nine years, growing wild. with no attention beyond that given to any other outdoor plants, and the Department of Agriculture some years ago gave Mr. Slaught permission to use a plot on the grounds at the Department for some years, and then on the flats where he has raised successive crops of ramie, showing that it is perfectly adapted to this climate. That there is no difficulty about the manufacture of the finished goods is shown by the amount of the finished yarns that are imported annually into this country, where they are used in mixing with silk, by using the yarns with the silk threads, weaving them into goods in Paterson, N. J., and elsewhere.

There is one establishment in Germany that turns out over 1,250,000 pounds of ramie yarns a year. All of the fiber used there, and in Europe generally, is hand cleaned, imported from China. The same is true of factories now operating in France. There is an immense amount of ramie cloth manufactured in the Orient, all by hand, mostly right from the green stalk, without ungumming at all. It is washed out in the goods. Its native whiteness needs no bleaching if it is to be colored, and it would take an expert to tell it from silk. Owing to this white tint of the finished goods, if it is properly grown and decorticated green as fast as cut, then properly cleaned and afterwards ungummed before it has a chance to turn yellow in the fiber, it is of a natural pearly whiteness and needs no bleaching, unless for absolutely pure white delicate materials. Ramie takes color the same as silk if dried. Although high priced for the purpose, it is unapproachable for bond and stock paper. All the refuse in manufacturing will be well adapted for this material, as the wood and pith are very satin like and makes a fine finish for paper.

One other use that ramie has been adapted for in this country for years past is in the manufacture of fishing lines, made by hand from the Chinese imported cleaned fiber. It is remarkably strong, and stronger in water than out of it, so that its remarkable strength allows a line not much larger than a pin to be manufactured that will stand a breaking strain of 200 pounds when wet in the water. They have been used in San Francisco, Cal., for seven years as a trolling line without wearing out in the salt sea water.

There is one factory that makes a specialty of this hand-spun line. The hand-spinning process makes them costly, and a single line is worth 50 cents. But they are almost indestructible and waterproof. The fact that ramie has been used so long and successfully abroad, and so much of it imported here, makes it seem strange that its culture and manufacture has not sooner been taken up. If the enterprise can be started in Washington it will be the first of its kind in this country, and there is every prospect that it will add another and very profitable crop to the list already at the disposal of the farmer, and will establish a new and very important industry in America.

For full information in regard to the difficulties in starting this industry in the United States, and, in fact, in the civilized world by machinery, see the article I quote from Consul Lyfeld, of Germany, and also an article written by an Englishman a short time ago, which I also quote and have published, and accompanies this article. Also letter by Acting Secretary Willets in 1890; and others of great importance that throw much light on this whole matter. Also, for full information, see Senate Documents, Nos. 47 and 57, Forty-seventh Congress. These will now be reprinted.

WASHINGTON, D. C., *April 27, 1906.*

To the Committees on Manufactures of Congress.

CHAIRMAN AND GENTLEMEN: In relation to the bill (H. R. 14588) in the interest of ramie industry, I am asking for the country first, and I will take care of my own interests myself afterwards. The land I am asking the use of is lying idle, and would be improved and be used at my own expense; no cost to the Government. The appropriation I am asking for is, and will be, only once. I shall get the industry started in making the demonstration. The market for the farmer will be opened, and you will all know then only just what I can only tell you now. "The proof of the pudding is in eating it."

I can't prove it to you in any other way, and this demonstration is just what any capitalist wants, too, and must have before he should put large sums of money into it to develop it for a large industry that it should make, and in a short time, in this way. The printing of the documents is certainly necessary, and the Congress should have the information they will give.

The people want them. It is a small favor to ask for the country. The books are my own writing, largely my own plates, and all of the growing of the ramie, and the photographing entirely so, and I have spent many years growing and photographing them—all this time promoting the industry, corresponding, writing it up, having had a free exhibit, and spent twelve years perfecting it, not only in getting the country interested in it, but resurrected ramie from foolish failures and misunderstandings, as well as misrepresentations and intrigues. I want these books reprinted so that you can all have them and read all about it and send them to your people, and then I want the stereotype of them all, that I may publish them in large numbers at my own expense and in newspapers in detail, free, and in such shape that they will be read not only by the public, but by Congressmen themselves as well, so they will know what has been published by the Government and written at an expense of time and great labor. The botanical fence should be removed also, as it is ordered to be by law now. That was ordered to be done in 1903. We want that opened up to the public and Americanized, so it can be known a little of what grows there. The people, as well as Congress, ought to know what grows there, and that ramie grew there for forty-nine years, from 1855 to 1899 or 1900. If the fence had been away and the garden been what it ought to be that would have been known, as well as many other things now in oblivion.

There should be a botanical and a geological exhibit there in cabinet form, as well as growing, in shape to be seen.

The fountain, showing off by day and lit up at night, with a band stand, and seats for the public to enjoy it evenings, thus giving the people and city some benefit of it.

Yours, truly,

S. H. SLAUGHT.

A LETTER TO A FORMER SENATE COMMITTEE MR. GEAR, CHAIRMAN.

WASHINGTON, D. C., *March 24, 1896.*

DEAR SIR: In order that you may fully realize and know the full importance of my request for an appropriation from the General Government for the promotion of the ramie and silk industries in the United States, I will say, as briefly as possible, that there has been many thousands of dollars expended in trying to promote it, and capitalists are diffident about investing; and then, on account of my ideas of making it a national industry for and by the people, they naturally do not wish to spend their money to develop it, except all for themselves, and that is the reason that they should have assistance, and I am asking Congress to help me to make the necessary demonstration for and with the people's cooperation.

My object is to get the public to take hold of and promote it or, rather, to go largely into the business. What I am asking of the Government is to that end—not only to help us to what is naturally spent (wasted) in starting any new enterprise, but especially manufacturing textiles. As all know, many even fail in the attempt. The bonus that I am asking of the Government, the public feel, is not only necessary to start it, but that it will be a sure and certain success if the Government is back of it. Then, everybody is willing to subscribe his mite, and that is what we want. I do not want a life position in the Government employ or to make a political position, but only what is necessary to make a great industry for our country and all get the benefit from it as soon as possible, at least in three or five years to make it worth several hundred millions annually in savings, as well as prevent that amount going abroad annually—in gold, too—and to benefit the farmers (which benefits everybody), all business, and the whole country. Then, the employment of labor and skill in this and the factories benefits all again. And these goods can be made at home for half the money sent abroad for them now—$100,000,000 annually—thus in four ways benefiting every man, woman, and child, rich or poor, high or low. I want it to be a ramie industry—to make ramie goods as ramie—as well as American, and that our boys and girls shall have the benefits of the trades it will offer, and that they can commence in it young, in connection with their college education.

Now, for this purpose I want six stations for silk and ramie, $5,000 a year each, and $100,000 extra for each of three of them the first year. If not three, which is best, and will pay and do most good, and the soonest, then at least one of them, with one agent for them all at $3,000 a year and traveling expenses, and one assistant for each at $800 per annum each. But for the principal ones, or one, at $1,200 per annum. This much is only the starting or encouraging—the confidence part of it. I propose to establish companies and get all the people interested I can by bonuses and subscriptions, having the companies manage the business safely to all, and thus get the country into a large controlling business of the ramie and silk industry of the world in as short a time as possible, the Government part of it all being done through the agent, he employing the company under the authority of the Government to do the work for the agent safely in a business way, thus putting every dollar in the advancement of the business successfully launched and going ahead. I do not want this over and over in politics, nor do I want to be connected with any failures.

Yours, most respectfully,

S. H. SLAUGHT

Hon. JOHN H. GEAR,
Chairman Subcommittee on Agriculture and Forestry,
United States Senate.

VENTURA, CAL., *June 25, 1891.*

MY DEAR SLAUGHT: I am glad to know that your persevering efforts to establish ramie culture in this country are meeting with deserved encouragement. California will be benefited immensely by this new industry. If your process for ungumming the product proves efficacious, which I do not doubt it will, the benefits that will result can be scarcely overestimated. They may equal the effect produced by the cotton gins, for by it will be established in this country a permanent industry in the culture of a valuable fiber, and its manufacture into superior fabrics at a moderate cost.

I wish you every success.

Sincerely, yours, WM. VANDEVER.

S. H. SLAUGHT, Esq.,
Los Angeles, Cal.

SAN FRANCISCO, CAL., *January 30, 1892.*

This is to certify that I was at one time interested in the culture of ramie on a small scale in the Hawaiian Islands, and spent considerable time, both in this country and in Europe, to develop the enterprise. This I found impossible, owing to the fact that no way of successfully ungumming the decorticated, cleaned fiber had been discovered up to that time. Several months ago Mr. S. H. Slaught's ungumming process was brought to my notice, and I witnessed an exhibition of his invention when something over 5 pounds of fiber was worked, and I cheerfully state that, in my opinion, this fiber was thoroughly ungummed and in all respects equal to the best Chinese fiber. It is my opinion that by Mr. Slaught's process ramie can be worked in large quantities very economically.

I heartily recommend Mr. Slaught's ungumming process, and hope it will soon be brought to the attention of investors, as I firmly believe it is the only means of bringing the ramie industry to a successful issue.

Yours, truly, FRANK H. AUSTIN.

OFFICE OF CALIFORNIA HOSIERY COMPANY,
Oakland, Cal., February 1, 1892.

To whom it may concern:

Having been identified for the past twenty years with the textile industries of the State, and during the past years having followed to some extent the various processes that have been invented for the manufacture of ramie fiber, this is to certify that I have examined Mr. S. H. Slaught's ramie fiber and something of his process for the manufacture of the same, and find the fiber to be thoroughly ungummed, of full strength and gloss, and fully believe that it will be practicable to comb, card, and spin the same after being separated into its original and whole lengths. It naturally being an uneven fiber, generally ranging from 2 to 6 inches long, it must therefore have the different lengths separated as in wool, short lengths to be used for mixing with wool, the longer lengths to be combed and worked like worsted wools, and would therefore be perfectly practicable to be used for upholstery and other expensive goods, imparting to them a gloss and finish which otherwise can only be obtained by the use of silk, thereby greatly enhancing the value of the goods at a trifling expense; yet I think it would be practicable to commence the manufacture of the ramie by working the same on the machinery now in use for the manufacture of worsted goods, or by using the small lengths to mix with wool for cassimeres to great advantage, and thus ramie fiber would take the place of imported wools and would far excel them in durability and finish.

PETER T. HOLLINGS,
Formerly of the San Francisco Pioneer Woolen Factory,

SAN FRANCISCO, CAL., *March 24, 1892.*

To whom it may concern:

The adaptability of California, Arizona, and New Mexico for the growth of fibrous plants, and especially of jute and ramie, and the great value of these fibers for textile fabrics, the immense amount of money employed in manufacturing goods of that description, and the immense value of the manufactured products, and the facility with which ramie can be substituted for other fabrics and increase the quality of the goods at the same time, justifies a generous appropriation by the General Government for the purpose of developing the industry not only in the States mentioned, but in the Gulf and Atlantic States and wherever it can be grown. I am of the opinion that no more valuable industry could be added to the existing ones than the complete and thorough introduction of ramie.

The complete and exhaustive exhibition of the growth of ramie and its products at the Columbia Exposition, at Chicago, in 1893 will be of great value to the United States, and I earnestly urge those interested to aid in obtaining such appropriation from Congress as will enable the Commissioner of Agriculture to make such exhibit.

IRVING M. SCOTT.

[California World's Fair Commission, 59 Flood Building, Irving M. Scott, president; James D. Phelan, vice-president; Thomas H. Thompson, secretary; John Daget, R. McMurray, A. T. Hatch, L. J. Rose.]

SAN FRANCISCO, *April 3, 1892.*

S. H. SLAUGHT, *San Francisco, Cal.*

DEAR SIR: I am desired by the commission to say to you that in their opinion the Pacific coast, both by its soil and climate, is well adapted to the growth of fibrous plants, such as flax, jute, hemp, and ramie, and as the products of these plants enter largely into the manufacture of a large class of goods extensively used in this country which is now largely supplied by the importations from foreign countries, we would strongly recommend a generous appropriation by the General Government for the purpose of developing their cultivation and use in our home manufactures. Realizing the fact that no better opportunity has ever been offered to show to the people the value of these products than will be offered at the World's Columbian Exposition at Chicago in 1893, we would earnestly urge those interested in obtaining such assistance from the Government to act with as little delay as possible, so as to enable the Commissioner of Agriculture to make such an exhibit at Chicago on behalf of the Government.

By order of California World's Fair Commission:

(Signed) THOMAS H THOMPSON,
Secretary.

We, the undersigned, heartily indorse the above:

I. C. Stump, secretary; E. B. Pond, ex-mayor San Francisco; James G. Fair, capitalist; The Examiner, by C. H. Palmer, business manager; William S. Chapman; George C. Perkins, ex-governor California; James C. Jordon; W. P. Coleman; W. H. H. Hart, attorney-general State of California; F. R. Bray; George B. Katzenstein, secretary; J. B. McDonald, State treasurer; George Vale Colonization Company; A. Abbott, cashier California State Bank; C. T. Bidwell, Great Fruit Farm, Chico, Cal.; W. H. Markham, governor, California; C. W. Bush, manager Bank of Yolo; A. H. Crew; Charles Faulkner, cashier Bank of Butte County; A. D. Porter, president Yolo County Savings Bank; A. G. Steiner; J. F. Hink; Watson Chaimbers, editor Chico Independent; Frank Miller, Hotel Riverside, California; A. S. Brooks, cashier The Rideout Bank; J. Prentis Smith; A. C. Bingham, cashier Decker, Jewett & Co. Bank; Joseph Brown; J. O. Weters; D. R. Knight, superintendent Marysville Woolen Mill; J. U. Hopteller, president N. C. Bank of Savings; R. E. Wilholt; S. L. Jones; W. M. Hutchings, president of Academy of Sciences; board of lady managers of the Columbian World's Fair: Mrs. E. O. Smith, president; Hester A. Harland, secretary; Thomas Kay, Salem Woolen Mills Company, Oregon; J. L. Lyon; H. G. Bullock; Origon Sanders, deputy attorney-general California; E. B. Homes, editor Riverside Press; Charles A. Larendon, New Orleans, La.; L. R. Ellert, and many others.

GOVERNMENT AID APPROVED.

SAN FRANCISCO, CAL., *March 12, 1892.*

To the Senate and House of Representatives of the United States of America:

The undersigned, State of California World's Fair commission, State board of agriculture, members of chambers and boards of San Francisco, and others, in consideration of the fact that this country has been proved to be well adapted to the raising of fibrous plants, ramie, flax, hemp, jute, etc., and that the Southern Gulf States, and this coast, California, Washington, and Oregon, and the southern part of Nevada and Arizona Territory, are especially adapted to the growth of ramie, as has been proven for the past twenty years, in the State of California in particular; and as Mr. S. H. Slaught, of California, has spent the past three or four years in developing its preparation and manufacture, and, according to the expert testimony, scientific and manufacturing, has developed an economical way of preparing the fiber so as to take the place of imported goods and wool to mix with our domestic clips, capable of converting them into the finest fabrics, and superior to imported wools, as well as to make the best of worsted goods, a variety of underwear, and silk-mixed upholstery, equal to any material now imported, and more durable than silk; and considering that many million dollars' worth of these goods and materials are now imported at great cost and can be thus produced by ramie and the aid of ramie fiber at a great reduction of the present prices, thus saving many millions of dollars annually to our people, besides giving employment to many thousands of working people and a very remunerative product for our agriculturists:

Therefore it is a sense of our earnest solicitation that the General Government appropriate several hundred thousand dollars to develop the production and manufacture of ramie in the West and South—hemp and jute in the Middle States, and flax in the North and West. A million dollars would be well expended could such an important enterprise be launched at this time successfully in this country. And in consideration of the coming Columbian Exposition in 1893, at Chicago, Ill., the coming year, we believe that if this measure could be started immediately by Congress, making it available and sure within a few months, ramie could be planted and grown and a very beneficial exhibit of its working possibilities made.

Therefore we earnestly recommend that the bill for at least $500,000, now presented, be acted upon favorably as soon as convenient or consistent with proper care and safeguards will permit.

It undoubtedly will be a good investment, and "what is worth doing at all is worth doing well." We heartily recommend Mr. S. H. Slaught, of San Francisco, known to us as energetic and capable of pushing this enterprise with honor to himself and this country.

C. L. Taylor, president Chamber of Commerce, San Francisco; C. B. Stull, president San Francisco Produce Exchange; T. C. Frieldlander, secretary San Francisco Produce Exchange; Barry Baldwin; C. M. Chase, California State board of agriculture; H. T. Emery, secretary Merchants' Exchange; A. T. Hatch, World's Fair commissioner; Joseph S. Spear, jr., secretary State Republican committee; T. G. Phelps, collector port of San Francisco; Andrew J. Moulder, school superintendent; Abraham Halsey; J. T. Thomas, secretary World's Fair Commission; Wm. McKee; Geo. W. Walty, labor bureau; B. M. Lelong, horticultural society; D. Samuels, leading dry goods merchant; T. A. Baldwin, agent B. L. Solomon's Sons, Oronoco Mills, Philadelphia, fifteen years with John D. Cutter & Co., New York and Philadelphia; Allan C. Reid; Chas. M. Plum & Co.; G. T. Weeks, editor Irrigation Age; M. Brown, of Brown Bros. Co., Oregon; Trunar Hooker Co., farm implements; R. M. McDonald, bankers; E. J. Baldwin (Lucky B., capitalist); B. Sherdeman, of Brown Bros. & Co.; Brown Bros. & Co., manufacturers, Oregon; Bassett & Bunker; Scipio Craig, editor Redlands Citrograph; Peter T. Hollings, foreman Pioneer Woolen Mills; R. H. Beamer, member State board of equalization; Wm. H. H. Hart, attorney-general; J. R. McDonald, State treasurer; E. T. Wait, secretary of state; J. D. Gilchrist, keeper of archives; California State Bank, A. Ibbner, cashier; Richard Gird, Chas. Greene, W. P. Mathews, Fredk. Cox, John Boggs, Geo. W. Hancock, L. W. Shippee, J. D. Carr, unanimous indorsement State board of agriculture of California at Sacramento, by resolution; H. M. Markham, governor of California; G. W. Carpenter, State senator; A. H. Crew, cashier Chico Bank; H. P. Stabler; H. R. Strong, produce merchant, Sacramento; F. R. Dray, State senator; R. McMurray, State board fair commissioners; G. R. Fitch, Bulletin Co., San Francisco; W. T. Fitzgerald, supreme court commissioner; Henry S. Foot, supreme court commissioner; John Parrott; Louis F. Monteagle; N. C. Carter; Thos. Kay Woolen Mill Co., Oregon; H. W. Hutchings, president California Academy of Sciences; S. B. Davidson, Downieville, Cal.; board of lady managers World's Fair commission of California, Mrs. E. C. Smith, president, Hester A. Harland, secretary; Chas. H. Larendon, New Orleans, La.; Thos. H. Thompson, secretary World's Fair commission, by special letter to S. H. Slaught, resolution of board; Irving M. Scott, president California board World's Fair commission, by special letter to S. H. Slaught, indorsed by the following: I. C. Stump, chairman Republican State committee; Wm. S. Chapman, capitalist and miner; Jas. C. Jordon; W. P. Coleman; Geo. B. Katzenstine, secretary O. V. Col. Co.; H. H. Markham, governor of California; Chas. Faulkner, cashier Bank of Butte County; Watson Chalmers, editor Chico Independent; C. S. Brooks, cashier The Rident Bank; A. C. Bingham, cashier Decke Jewett Co. Bank; J. E. Knight, superintendent Marysville Woolen Mill; J. U. Hopteller, president N. C. Bank of Savings; Lloyd Tevis, president Wells Fargo Bank; E. B. Pond, ex-mayor of San Francisco; Geo. C. Perkins, ex-governor; The Examiner, by C. M. Palmer, business manager; Wm. H. H. Hart, attorney-general of California; J. R. McDonald, State treasurer of California; E. G. Wait, secretary of state of California; A. Abbott, cashier California State Bank; C. T. Bidwell; C. W. Bush, manager Bank of Yolo; A. D. Porter, president Yolo County Bank; Frank Miller; J. Prentice Smith; Jas. G. Fair, capitalist, San Francisco; Joseph S. Spear, jr.; and many others.

CRANSTON, R. I., *November 13, 1896.*

S. H. SLAUGHT, Esq.

DEAR SIR: In reply to your inquiry as to the possibilities of ramie-manufacturing industry in this country, I would say that, in my opinion, they are very good, provided that honesty and fair dealing govern its development. There has been too many false claims and misrepresentations in the past to have done any good for the proper development, and again in the pretended ungumming the fiber has been ruined before they were ready for the first stages of manufacture. Events are occurring, I see, by which the fiber can be thoroughly freed from the gum without the ruining of the fiber. Lack of skill in the handling of the fiber, and of knowledge of the requisite machinery required in its successful working, has been another drawback. Under proper conditions I think, though, that both the skill and machinery can be obtained here in the United States to work the ramie fiber usefully and successfully.

There can be no doubt that the misrepresentations made have caused capitalists to hold back their aid from developing ramie fiber as it ought to be, but I think the greater knowledge to be obtained about the fiber and your work will in a short time prove the value of the fiber to this country.

I believe that Mr. S. H. Slaught is well posted in the work and all the difficulties to be met with, and has the requisite will, judgment, and skill to succeed and overcome them. There does not seem to be enough of the ramie manufactured as yet to begin to meet the demand for it, and they seem to be increasing and producing it in Europe, and why not here?

Very respectfully, yours,

H. A. STEARNS.

Mr. Stearns is an expert manufacturer.

S. H. SLAUGHT.

[The Textile World, Gould & Lord, publishers, 620 Atlantic avenue, Boston.]

BOSTON, *October 23, 1896.*

Mr. S. H. SLAUGHT,
Washington, D. C.

DEAR SIR: We note by the daily press that you are contemplating engaging in the manufacture of ramie products. We have in the last few years been especially interested in following the development of ramie manufacture, and would be glad to know by what process and what sort of goods you intend to manufacture.

The great obstacle in the way of success in ramie manufacture seems to have been in the degumming of the fiber. I would be very glad to know if you have succeeded in overcoming this.

There is unquestionably a good sale for ramie yarns in woven fabrics if they can be made commercially profitable.

Hoping to hear from you, we remain,

Yours, very truly,

THE EDITOR.

[The W. J. Hooper Manufacturing Company. Office, Baltimore, 110 East Pratt street.]

BALTIMORE, *December 8, 1896.*

Mr. S. H. SLAUGHT,
Washington, D. C.

DEAR SIR: We are very much interested in the manufacture of ramie, and in fact have made some investigation and find that ramie yarn is being imported and used with great satisfaction. We would like very much to become interested with you with a view of adopting the ramie yarn in our business for fishing purposes, and we are convinced that the ramie will withstand moisture better than silk and other materials now used. We understand that the raw material can be imported at a very small cost and spun here, and at the prevailing prices for the finished yarn show a very handsome profit.

We think your plan of promoting this enterprise is for the best interest of the American public, and feel sure you know what you are doing.

Hoping you will have your machinery started soon, we are,

Yours, truly,

THE W. J. HOOPER MANUFACTURING COMPANY.

The Philadelphia Inquirer, Sunday morning, December 13, 1896, has the following: "Possibly it may be only a question of a few years before the farming methods of this part of the country may be revolutionized, and all the farmers grow a plant which now proves a substitute or help for wool and silk. Mr. S. H. Slaught, of San Francisco and Washington, D. C., has spent seven years looking into the subject of ramie fiber, and is undoubtedly the best-posted man in this country, so far as that subject is concerned. Mr. Slaught is in Philadelphia, and he thinks there are great possibilities for the fiber of ramie, which is a species of the (thornless) nettle family, and is extensively grown in other countries."

SAN FRANCISCO, *August 2, 1893.*

Mr. S. H. SLAUGHT, *City.*

DEAR SIR: At the mass meeting of July 26, 1893, in referring to a loom invented here, I spoke of your being present and saying it could be used for the weaving of ramie, in all its variety of beauty and usefulness, and the manufacture of many articles that can be made from fiber of the ramie plant. If the production of ramie and the manufacture of the articles that can be made from it is undertaken and carried out here, it will be worth to the State of California more than the entire cost of the fair.

I have no doubt that when the farmers of this State realize that a successful growth and manufacture of the ramie plant in California will equal in value and importance the largest output of any of California's products at the present time, they will not allow this great opportunity to pass without taking advantage of it, and assist in controlling it for the State.

If the managers of the California Midwinter International Exposition can assist you in successfully introducing the cultivation and manufacture of ramie as a result of their efforts in this fair, it will be their justification for the entire exposition.

Yours, respectfully,

IRVING M. SCOTT,
Vice-President Union Iron Works.

UNITED STATES DEPARTMENT OF AGRICULTURE,
GARDENS AND GROUNDS,
Washington, D. C., September 26, 1895.

To whom it may concern:

This is to certify that S. H. Slaught planted a patch of ground here, in these grounds, with ramie roots, furnished him by W. R. Smith, of the Botanic Garden; dug on the 10th day of June, 1895, after they had grown stalks, this year, to a height of 7 to 8 feet, and that said ramie roots have since that time grown stalks here to a height of 6 feet, up to the 1st day of September, and were then loaded with seed blossoms, which are now maturing; and I believe it possible and practical to grow two or three crops of ramie here for fiber annually, and also that I believe that it will produce as well here as anywhere, in quality and quantity, with proper facilities for irrigation—when it is necessary.

WILLIAM SAUNDERS,
Horticulturist, etc.

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23 BROAD STREET, NEW YORK, *March 23, 1895.*

S. H. SLAUGHT, Esq.,
The Normandie Hotel, Washington, D. C.

MY DEAR SIR: I hope, not only for your sake, but for the sake of California, you will be able to get the ramie fiber in working shape before long; and if I were twenty-five years younger I would go into it myself, not only for the sake of what there would be in it, but for the sake of starting the new industry in California. There are plenty of intelligent people in California who, if they could only be impressed with the importance and magnificence of ramie, would, I think, be ready to take a hand in its development. From what I have seen of it, I believe it would be a great industry for the State.

Yours, very truly,

C. P. HUNTINGTON.

OFFICE OF THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA,
Washington, D. C., January 8, 1895.

The Commissioners of the District of Columbia have had an interview with Mr. S. H. Slaught, the president and manager of the Ramie Fiber Silk Manufacturing Company, of San Francisco, Cal., and have been greatly interested in his showing with regard to the possibilities of the plant if grown in the vicinity of Washington and manufactured into ramie products, and they express the hope that the citizens of the District generally would take an interest in the matter, with a view of furthering the growth and manufacture of the ramie product.

[Stoddard, Haserick, Richards & Co., Bradford, England, and Boston, Mass., foreign bankers and importers of textile machinery. Colonial, English, and carpet wools, Egyptian cotton, etc.]

BOSTON, MASS., *November 9, 1896.*

Mr. S. H. SLAUGHT.

DEAR SIR: In reply to your inquiry respecting the manufacture of ramie in this country, we beg to say that though we are conversant with nearly every branch of textile manufacture we know of no successful attempts to manufacture this material in the United States, although we see no reason why, with proper management, it could not be made a success.

Respectfully, yours,

STODDARD, HASERICK, RICHARDS & CO.

UNITED STATES BOTANIC GARDEN,
Washington, D. C., January 4, 1895.

DEAR SIR: For thirty-five years I have been convinced of the fact that there is a great opportunity for the cultivation of ramie in the South.

It grows from 10 to 12 feet high in our seasons in the United States Botanic Garden.

Some one must do for ramie what the cotton gin did for cotton—that is, to get it ready for the markets cheaply.

Respectfully,

WM. R. SMITH,
Superintendent United States Botanic Garden,
Per R.

Mr. S. H. SLAUGHT, *Normandie Hotel, City.*

No; a market must be made by manufacturing at home; I have the processes. I was not satisfied with this letter and wanting more explicit facts, wrote them out in the following, and Mr. Reynolds, assistant superintendent, believing and approving it, got Mr. Smith to indorse and sign it for me.

S. H. SLAUGHT.

UNITED STATES BOTANIC GARDEN,
Washington, D. C., January 21, 1895.

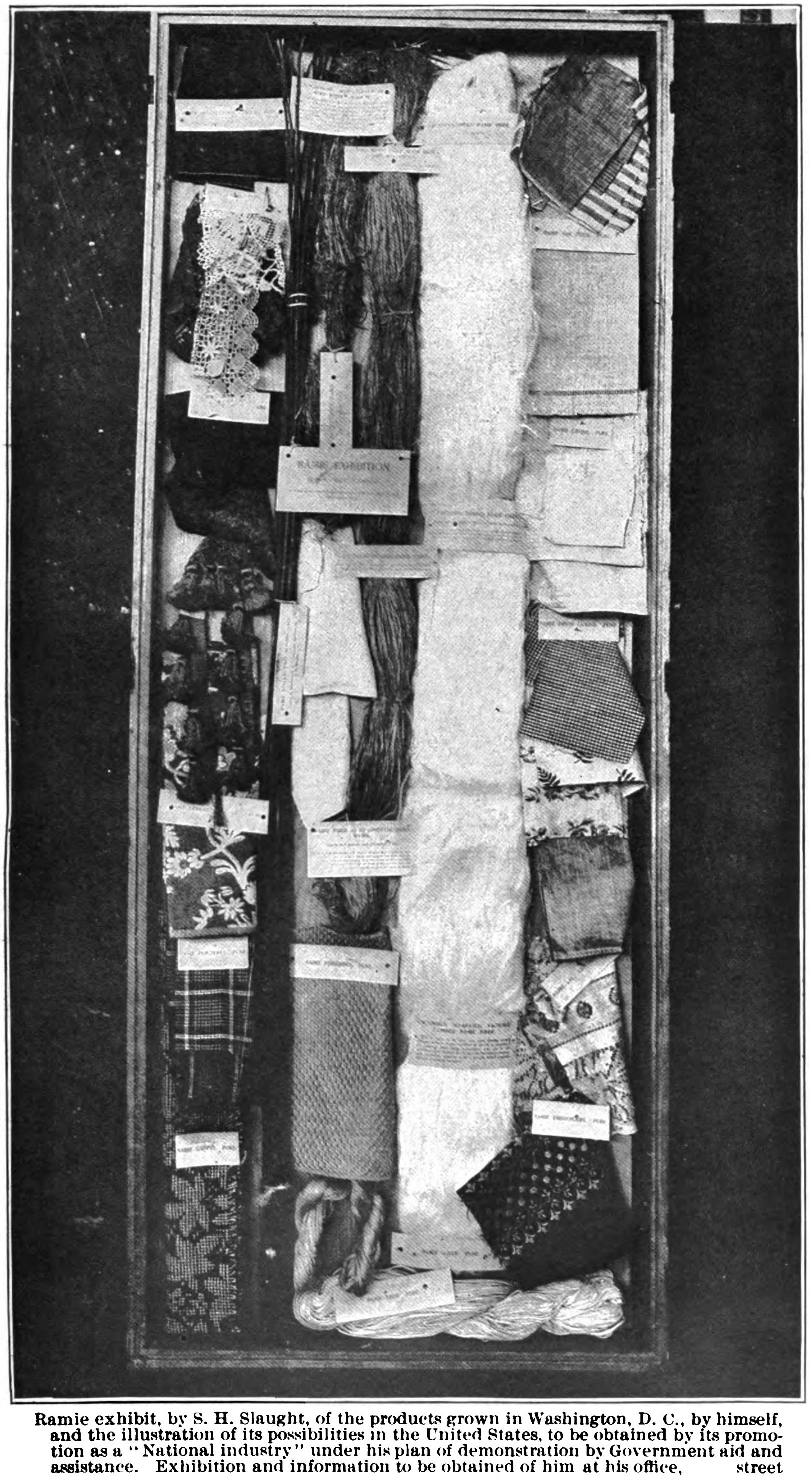
DEAR SIR: As per your request for a statement from me as to the matter of ramie, I would state that, in my judgment, ramie will produce two crops per year in Washington for fiber, maybe some years three crops (as you say) when grown thick on land not too rich so as to mature soon enough. But to produce seed, of course, it must grow and ripen all summer, to fully ripen up the stalk, so that only one crop could be grown for that purpose.

Respectfully,

W. R. SMITH,
Superintendent United States Botanic Garden.

Mr. S. H. SLAUGHT,
Washington, D. C.

Ramie grown in Washington, D. C., from oriental countries, procured by the Agricultural Department, at the request of S. H. Slaught, and grown from seeds and roots to prove that ramie would grow in Washington, D. C., on which he has the official report, that all specimens procured everywhere were just the same as he had been growing successfully all the time all over this country, and especially in Washington, D. C. Samples of these stalks are now on exhibition at his office, street NW., and at the Maltby, Senate Annex.



Ramie exhibit, by S. H. Slaught, of the products grown in Washington, D. C., by himself, and the illustration of its possibilities in the United States, to be obtained by its promotion as a "National industry" under his plan of demonstration by Government aid and assistance. Exhibition and information to be obtained of him at his office, street NW., and at the Maltby, Senate Annex. Used before Committees on Manufactures in both House and Senate, 1904–5 and 1906–7.

CHAIRMAN OF THE JOINT COMMITTEE, LIBRARY OF CONGRESS:

In consideration of Mr. S. H. Slaught's ability, experience, Americanism, and on account of his promoting the ramie industry, and the great benefit it would be to his work and the country's interest in it, we, the undersigned, would urgently recommend that he be appointed superintendent of the United States Botanical Garden, Washington, D. C., and that he be allowed to Americanize as well as to modernize and secure the use of it to the best interests of the United States, and make it attractive and an ornament to the nation's capital.

With the appropriation usually made, he thinks a judicious use of it would make a practical and permanent exhibit there that will be a great honor to this country, and at the same time further the very important industry he is promoting in the people's interest.

Park Agnew, State chairman of political party in Virginia; W. H. Barton, Department of Justice, United States Treasury; H. A. Cobaugh, United States Treasury Department; R. Tracewell, Comptroller of the Treasury, United States.

I especially recommend Comrade Slaught to this position:

E. A. Kreidler, formerly of Company A, One hundred and forty-first New York Volunteer Infantry; R. G. Dyrenforth, Commander in Chief Union Veteran's Union; W. H. Harnesberger, special, Pension Bureau; George Campbell, State, War, and Navy building; E. W. Finch, Assistant Chief Western Division, Pension Bureau; J. E. Heart, Assistant Chief Western Division, Pension Bureau; J. S. Garrison, Chief, West Pension Bureau, Washington; Benjamin F. Clayton, War Department, Washington, D. C.; H. W. Sanford, Land Office; Jessie Lawson, New Jersey; Morris Lucks, 518 Ninth street NW.; G. C. Howser, M. D.; Wm. Fletcher, 602 F street NW., Washington, D. C.; Edward Schaeffer, M. D., 825 Fourteenth street, late coroner; W. H. Saunders, 1407 F street NW.; F. A. Tachiffierly, jr.; Washington Ice Manufacturing Company, W. D. Hall, secretary and treasurer; George Hill, jr., Potomac Paper Mills, Georgetown, D. C.; W. H. Moses, Eleventh and F streets NW.; G. G. Boteller, 3213 M street NW.; G. W. Offutt, 3211 M street NW.; J. W. Moyer, Room 10, Sun Building; H. L. Erskine; Alice Lee Moque, 1807 Thirteenth street NW.; Geo. H. Corey, 1205 Pennsylvania avenue; John T. Devine, the Shoreham; P. H. S. Cake; the Normandie; C. Dewitt, Willards; O. G. Staples, Riggs House, the National, and Willard's hotels, Washington, D. C.; C. Becker, harness, trunks, 1328 F street; H. C. Potter, Dallas, Tex.; Elmsmeau Bros., corner Seventh and E NW.; E. E. Sears, Iowa; L. M. Fitch, Hotel Wellington; Edward Baltzley, Glen Echo; Carrie E. Miller, Academy of Music; A. E. Galbrey, the Shoreham; B. Robinson, corner F and Twelfth; Kimen Nichlaides, F street near Twelfth; W. B. Moses & Bros., Eleventh and F streets NW., Washington, D. C.; William Hurand; John D. Cobb; the Shoreham; Thos. W. Smith, lumber, corner First and C NW., Washington, D. C.; Hecht & Co., Seventh street NW.; Isrial & Co.; C. M. Jorden Co.; C. J. De Baum, Cashier Hotel; E. E. Patton, Baltimore and Ohio Railroad; R. P. Emmarson; J. B. McCarty; S. W. Woodward, of Woodward & Lothrop; Walter Burton, National; E. J. Sweet; W. P. Pierce, Georgia; P. F. Herwig, chairman, State of Louisiana; W. Berens & Son, 622 E street and 927 Pennsylvania avenue NW.; C. C. Carlton Co., San Francisco, Cal.; L. S. Smith, real estate; W. R. Householder, messenger, United States; W. P. Gladen, M. D., Xenia, Ohio; Sam

Cross; George H. Corey; M. G. Emery, Bank Building, Seventh street NW., Washington, D. C.; W. McNear, Department of State; A. H. Legg, Topeka, Kans.; George T. Lovel; W. B. Shaw, News, Riggs House; A. Frost, Riggs House cashier; George G. Burke, chief clerk, Riggs House; Charles H. Lambert, head clerk, Riggs House; Chas. R. S. Rockwell; John T. Talbott, Jacksonville, Fla.; Nathaniel Parke, New York; E. M. Willis; R. L. O. Breen; J. T. Bowmen; John Fletcher; J. E. Frost, C. U. Smith; Harrie Bothman, clerk, National Hotel; Frank E. Morrel, representing Fannie Rice Co.; E. M. Boyd, Gilroy, Cal.; Morton E. Crane, Boston; C. Swartz, H. Walton, W. H. Wilson, all Normandie Hotel; Chas. T. Wood; Thos. L. Pole; C. S. Campbell, restaurant; H. G. Grayson; Wm. H. Woods, Hotel Vendome; E. E. Curry, 1205 Pennsylvania avenue, Department Commander G. A. R., Department P; Thos. Hopewell; A. S. Pratt, Sun Building; A. L. Reed, Seaboard Air Line Railroad office; W. M. Palmer, secretary, Wellington Hotel; D. H. Nichols, Mt. Vernon Hotel; Jessee H. Rove, M. D., 902 F street NW.; W. H. Barton, M. D., 902 F street NW.; Julius Jansousky, 1226 F street; G. E. Abbott, 2011 Fourteenth street; A. S. Walford, 477–499 Pennsylvania avenue NW.; H. O. P., 497 Pennsylvania avenue NW.; A. L. Minster, 495, 499, and 501 Pennsylvania avenue NW.; James, 300 Seventh street NW.; Emmons S. Smith, 705 Market space; Fernando Page, doorkeeper, House of Representatives, United States; D. J. Foster, clerk House Committee on Pensions; Wood; Gates; W. Markwood, late Lieutenant and post captain, Veteran Reserves captain, United States Army; J. E. Hart, Assistant Chief Western Division Pension Bureau; Henry M. Lincoln, 1810 K street NW.; Edward Meuch, 25 B street SW.; C. H. Lawrence, General Land Office, United States; Lyman B. Kendell, Idaho; C. S. H. Smith, Arizona; John B. Fletcher, New York; W. N. Bowen, South Dakota; James Bell, assistant adjutant-general, Gainesville, Fla.; A. E. Redstone, California; James R. Kernan, Hotel Gordon; P. S. Foster, 1327 F street; Wm. W. Dannenhower, Hotel Fredonia; C. McEnery; Thos. W. Smith, lumber yard, corner C and First streets; Wm. C. Amery, corner B and Third; J. F. Jarvis, 155 Pennsylvania avenue NW.; Harrie E. Ruppreche, 131–133 Pennsylvania avenue; T. W. Moss, 232 P street NW.; Delos H. Smith, 26 B street NE.; A. T. Bache; Thos. H. Hail, 1117 F street; George W. Whiting, 907 Twenty-second; A. A. Wilson, 303 Seventh street NW.; Jas. R. Roche, 309 Maryland avenue SW.; Morgan McInerney, Sixth and E streets; C. MacInerney, 119 Second NW.; Patric Phillips, 121 Nineteenth NW.; Jas. Bryan, 121 Pennsylvania avenue NW.; Mrs. C. B. Cutler, 222 Third street NW.; John F. Cook, 1118 Sixteenth street NW.; Nora D. Cannon, 201 Pennsylvania avenue NW.; P. B. Anderson, 512 Tenth street NW.; Wm. H. Killiuon, 101 Pennsylvania avenue NW.; for estate Leander Vanriswick, 118 First street NW.; Wm. H. McGranin, 206 and 208 B street; Henry P. Gillus, 3100 P NW.; H. B. Leary; Otto Statter, 102 Maryland avenue; Chas. E. Killian, 336 B street SW.; Mrs. Ames Crandle and Mrs. Hort Crandle, 610 H streets NW.; Mary C. Roche, 309 Maryland avenue.

WASHINGTON, D. C., *February 15, 1895.*

FLORIDA AGRICULTURIST.

GENTLEMEN: I see in your issue of 7th instant a proposition to go into ramie planting, etc. I have been actively engaged for the past five years in investigating the ramie plant, experimenting in preparing the fiber for carding, combing, spinning, and weaving into fabric, ramie propagating and raising from seed, roots, and layers for fiber and seed, as well as looking into its history, habits, and the work done, and writing about ramie production and manufacture in this country and Europe. I find it is one thing to introduce ramie right to make it worth anything to this country, our farmers, laborers, and consumers, and we might include speculators, though they can generally take care of themselves; quite another thing for somebody to make a careless, ignorant splurge about a machine, and raising ramie possibly just to make a little money out of it, or lose some, as most of these do, with their careless experience or attempt at what they know nothing practically about.

First, let me give you a little history about ramie in the South. In 1855 ramie was first imported into Washington from Java by Mr. E. C. Schaffer, M. D., from Mr. Wilson, of the gardeners there, and Mr. Smith, of the Botanical Garden here, planted and grew it (ever since that time) until now, and he says in a letter to me that two crops, and maybe sometimes three, can be grown here for fiber and one crop for seed (only, of course) annually. Ramie has stood the winters here without protection, while in China they grow it where they have to cover it in winter with heavy coat of manure to save it, and raise three crops annually.

In the Patent Office report of 1867 I find a report that they had had a "great furore" in the South to raise ramie to compete with cotton. They of course failed. There is just where they made their most foolish mistake. If you found plenty of gold and more easily obtained than copper, would you try to compete gold with copper and go to making it into pennies? You might as well try to compete with cotton—with silk—even if easily and cheaply raised as raime may be sometimes. But it costs money to plant ramie and get started; and why should we take its fibers to compete with cotton at 5 cents, or even 10 cents a pound, when ramie fiber is from 3 to 6 inch staple, as fine as silk, and almost as glossy, and much stronger and more durable, and when goods are made with silk facing, and three-fourths of the whole is ramie, and better, more durable, and stronger than all silk, which is worth from $3 to $4 and up to $10 a pound? Why use it for anything else until that want is supplied, thus getting a start in manufacturing? As a mixture for worsted and wool in cassimeres, blankets, clothing, dress goods, and underwear is the next possibility, and as a pure article in underwear, clothing for summer, and many finer articles than can be made from linen, and much more durable than linen. Next, why talk about competing with cotton? The only way it will compete with cotton is for many years it will furnish a much more profitable crop to raise if started in this way, and thousands of planters can raise part ramie and less cotton, so as not to oversupply the market with cotton and thus break down the price. Each man competes with himself, if at all, and those not raising ramie, but all cotton, are likewise benefited by being left with less competition and less overplus, so all will get a better price for cotton. Ramie must be put into higher-priced goods as long as possible, in competition only with high-priced imported goods and heavy goods of fine material.

Now, as to the methods of doing this to the best advantage. The manufacturers would like to have the farmers in some way raise a lot of it, not knowing its values, and then get hold of it at a low figure, put it into goods, and sell them for all they can get.

The capitalist speculators, if they start factories for ramie, want the same, and to make it all; in fact, they would just as leave import cleaned ramie and the laborers to work it up and make it all themselves as to benefit this country or its people.

I have been striving to educate the people to understand it and help to promote it in their own interest and as an American industry, dividing the profits equally between the farmers, the working people, the purchasers, the manufacturers, and the merchants, as well as the whole country, in keeping $100,000,000 at home annually.

In order to do this I will explain my idea: First, the farmer must be secured in a market by reliable contract for several years before planting. In other words, a market must be created with the planting; and there is no market for our machine-decorticated ramie, because it is not like the Chinese hand decorticated and cleaned ramie, which even then has no market to speak of in this country, because there are no factories of any capacity to use it in or that know how if they had. Yes, you may say, there are large factories; first, for upholstering goods. They have not the proper machinery for it—to start it from the crude to the combing—nor are they making good enough goods to need or afford to sell ramie goods to the best advantage for the people. Woolen mills might use some of it, but they are using shoddy, cotton, cotton waste, and other cheap stuff, and have not the proper machinery to make the right grade of goods and would not pay a price that would benefit all classes, as I stated in the start. They want something cheaper than they are using now. You may say they might put in new machinery and make the goods to do it. Well, that would be virtually going into a new business—both manufacturing and marketing their goods. They are often in debt and can not afford it if they would, most of them; and it does not pay to complicate their business if they could. They are trying to make cheaper goods for their competition all the time. It must be got at similarly to the sugar-beet business, by large organized capital for that very purpose, properly promoted in the interest of the country by the people themselves.

Now, I see they offer to furnish you seed. You can better afford to buy the roots, being sure that the pay for them goes into manufacturing machinery or property established in your interests. Pay the mills for them in fiber. It will take you a year longer to get a ramie crop started from the seed than from roots, even if you succeed in raising from seed at all. They have always failed with seed in a promiscuous way. They did in Texas, and everywhere else I know of. The seed is very delicate and needs the care of an expert in a hothouse and transplanting carefully, and unless one is in the business, it will cost more than roots furnished you. Next, I see an offer to purchase your fiber, cut green, with leaves and all, to be shipped at $3 a ton. First, it is worth three times that price to you, properly handled; but it can not be handled that way at all. It must be leafed by machinery in the field before cut, cut by reapers, and finally hauled to a decorticator within two hours' reach of the cutting, run through that and a drier to a baler. You can not afford to dry it by hand even now. You must have a sure market, and it will be worth 6 cents a pound net for several years if properly promoted; that means 5 tons green, 1,000 pounds dry, each cut.

Manufacturers properly started in and interested exclusively to make goods worth from $1 to $5, or up to $50 per yard, in place of imported goods now made of silk, camel's hair, alpaca, wool, and worsted, and of course certain lines of heavy and other pure ramie goods, and heavy underwear would succeed. We can not afford to compete even with the fine lines of Chinese, Japanese handmade pongees, and other like fabrics in fineness, to commence with, at least. What we want is Government assistance and an expert in the interest of the people controlling it, to start and manage it in stock companies formed for that purpose exclusively. That arrangement I have made in New Orleans; Mobile, Ala.; San Francisco, Cal.; here, and other places contemplated or arranged for, and two of them are in Florida. Pending the starting up of these I am getting the Government interested to assist in demonstrating it and giving it the necessary impetus to succeed, with the bonuses that the people propose to give, and that it will be in shape for the American people, rich or poor, to invest safely in the stock of the companies. Then we will have this most important industry launched in a successful and substantial way, dividing its full possible benefits directly and evenly among the people.

Corporations should be the safeguard of all investments, and can be made so if the people themselves will be honest and see that others are also by punishing the guilty, high or low.

If you want to cease making millionaires invest yourselves in good things and see that they are run honestly, and make good, wholesome laws controlling and fostering them, laying aside foolish, ignorant prejudices against the best institutions in the world.

Now, I will make you a proposition for western Florida and southern Florida alike: Each make up a bonus of $50,000 to $100,000, or a division of it, as they will do in several places in California and here; give a site for a mill, a site for a college, and a tract for a nursery, and lots for houses, if not a tract for a town site, and that, with an appropriation from the Government of $50,000 to $100,000, would put it in shape to put up fine buildings and power and fixtures; $100,000 worth of the best machinery in the world for manufacturing the finest heavy goods made; from $200,000 to $500,000 worth of appliances, including $100,000 to $200,000 worth of stock, materials, and expenses of furnishing roots, machinery, etc., helping the farmers to get started; also helping to start and fill a college, in which our best boys and girls could complete a first-class education while learning the finest trades in the world, including all kinds of manufacturing and machinery, drawing, coloring, painting, designing, weaving, knitting, and finishing, as well as business methods and mercantile pursuits. All this must be controlled by a strong, determined, earnest, honest effort by a party or parties interested in the work—mind, money, heart, soul, and body. It must be controlled sure that way or there is no certainty of its ultimate satisfactory results. I have convinced the people of California, after two years of hard teaching—who needed it, too—and the masses are with me—while selfish capitalists may not be—and will stick to me, and I am going to stick to them, too, and the Government is going to help us.

Yours, truly,
S. H. SLAUGHT,
Office, 123 D Street NW.,
Room 66, Maltby (Senate Annex).

NOTE.—In the above article don't let the figures scare you. In one city in England there are 300 factories with a capital of not less than $500,000 and on up to $5,000,000 each. We certainly could stand that much all over the United States.

Address, any time, general delivery, post-office, S. H. Slaught, President and Manager Ramie Fiber Silk Manufacturing Company, San Francisco, Cal., or Washington, D. C.

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